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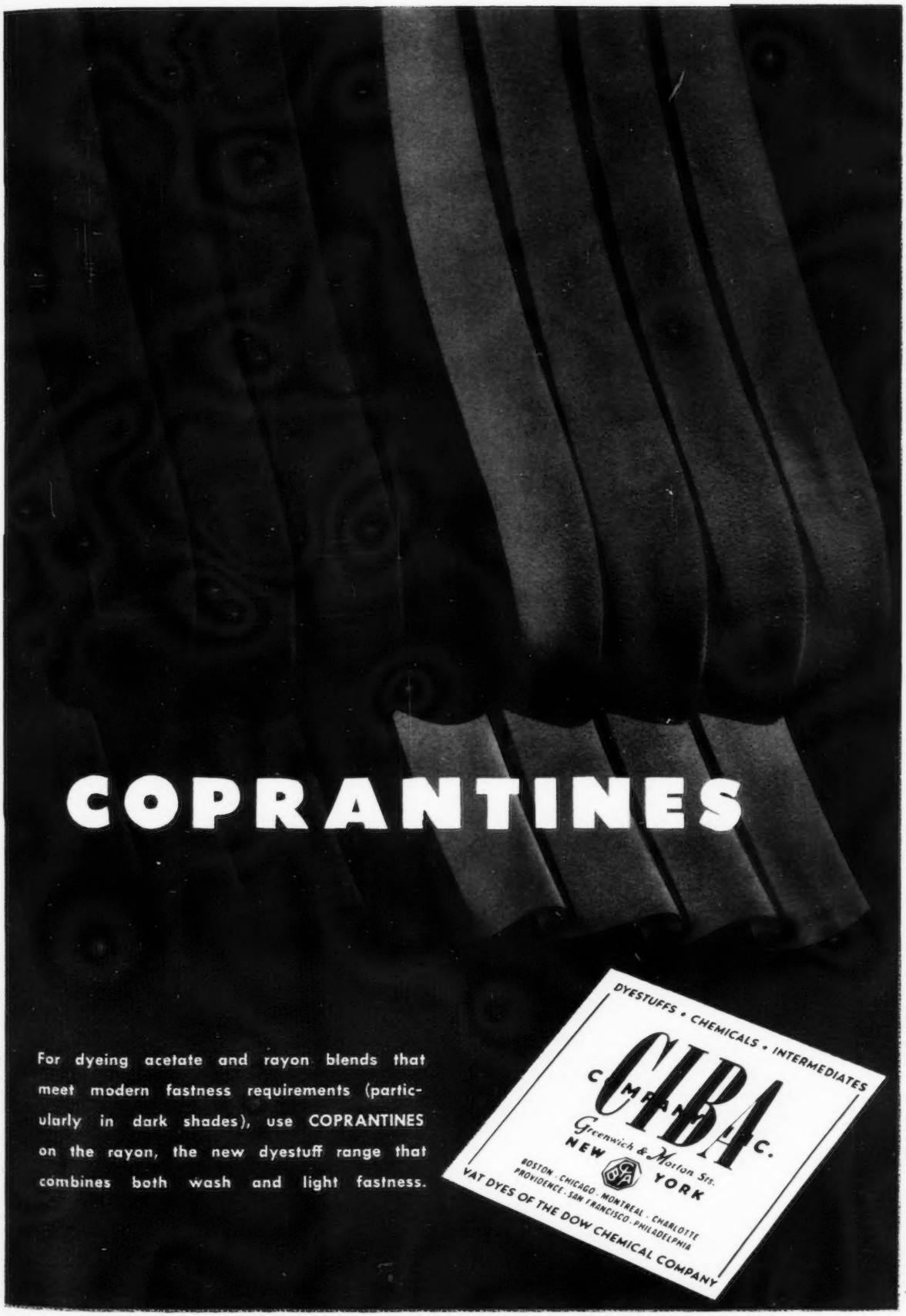
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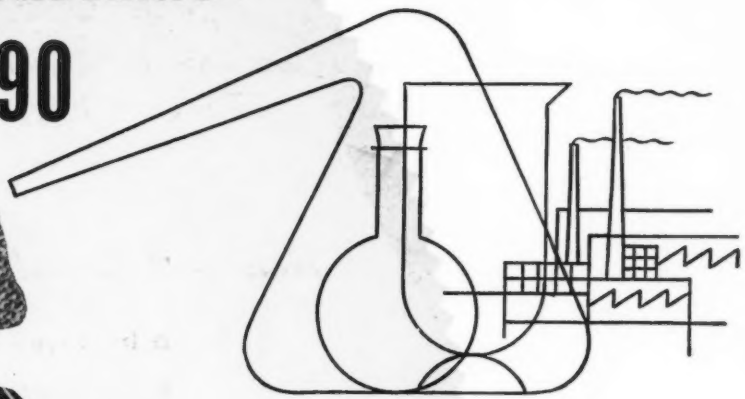

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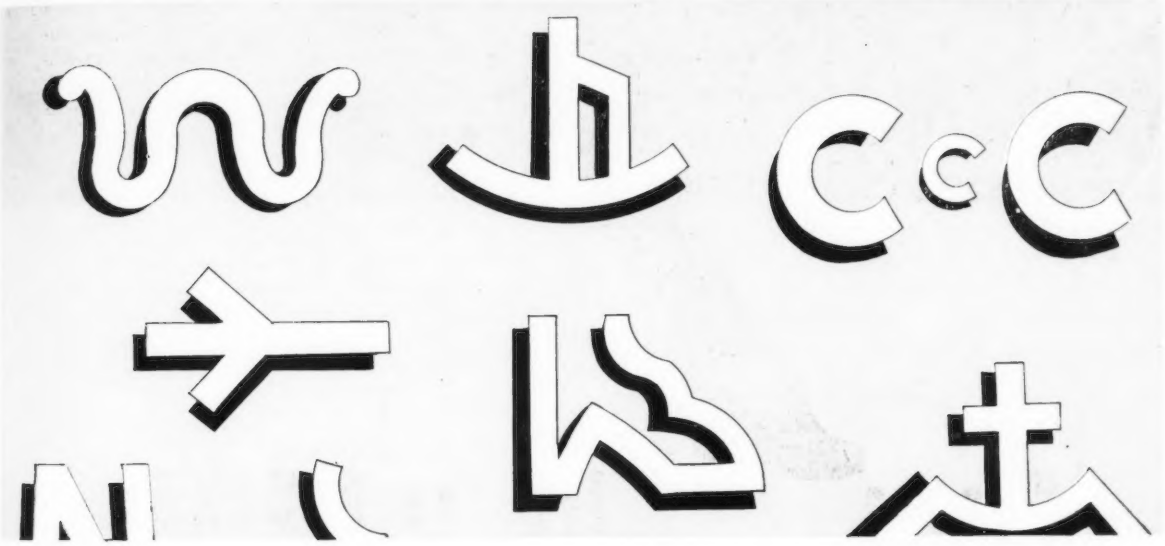

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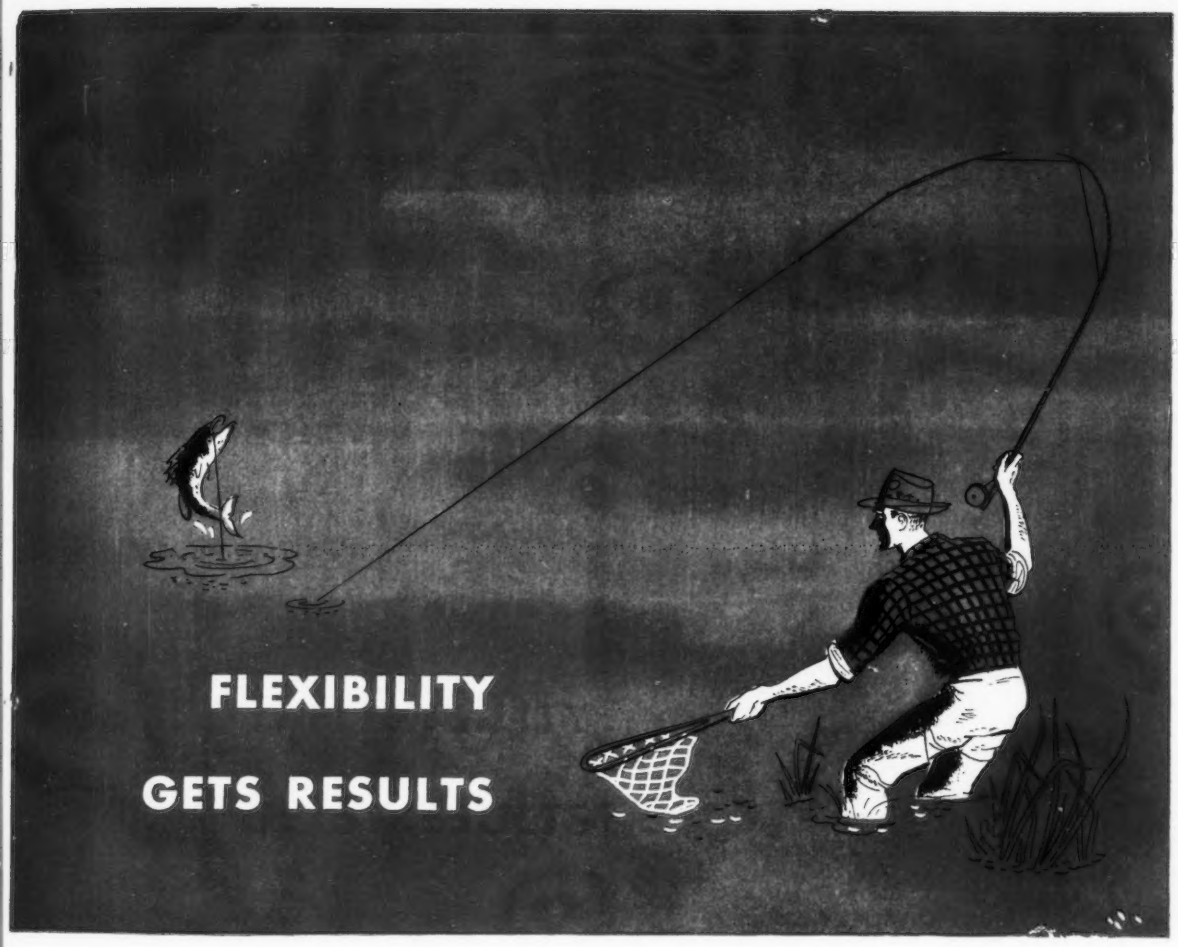

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Eleventh Annual Processing Review Number

TO MANUFACTURERS OF DYESTUFFS, TEXTILE CHEMICALS,
WET PROCESSING MACHINERY AND LABORATORY EQUIPMENT:-

The ELEVENTH ANNUAL PROCESSING REVIEW NUMBER will appear on December 16th, 1946.

One of the special features of past issues, which will be continued this year, is a listing of new products for the textile wet processing field. You are invited to submit information concerning such products which have been brought out since November, 1945. This information should include the trade name of the product and a BRIEF summary of its uses. Please list each product on a separate sheet. If illustrations are necessary, glossy photographs or India ink drawings should be furnished. If the trade name is registered or the product is patented and you wish this fact indicated, please advise.

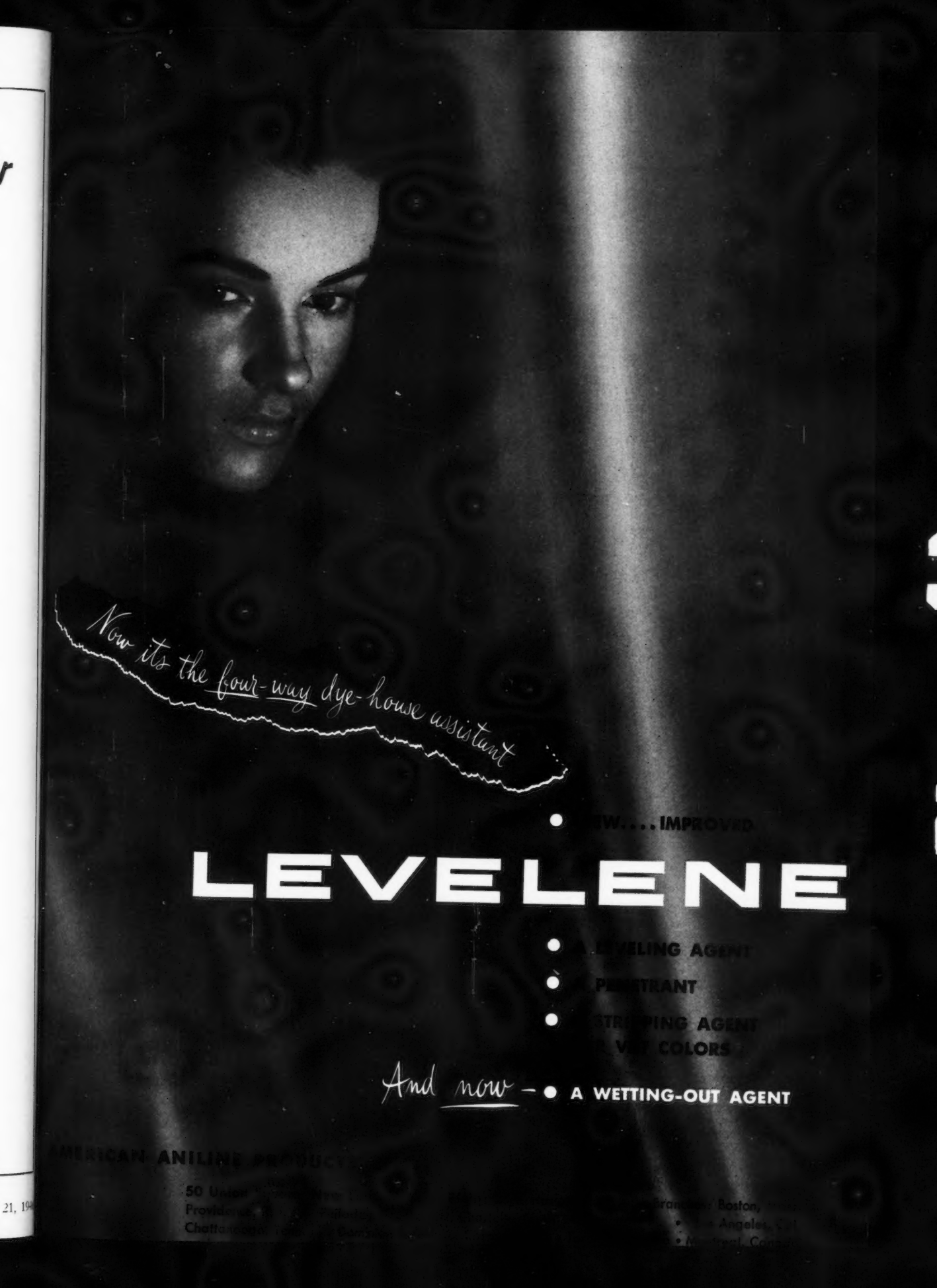
In order to insure your product being listed in our issue of December 16th, information concerning it should be in our hands NO LATER THAN NOVEMBER 18th.

The response from manufacturers in the past ten years has provided the basis for one of the most valuable features of the issues and we trust that you will again cooperate to the fullest extent.

The Annual Processing Review Number is not to be confused with the Silver Jubilee Issue, which appears December 2nd.

AMERICAN DYESTUFF REPORTER

ONE MADISON AVENUE • NEW YORK 10, N. Y.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And now — A WETTING-OUT AGENT
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SILVER JUBILEE ISSUE

TO BE PUBLISHED DECEMBER SECOND

THE Silver Jubilee Issue will carry a complete history of the A.A.T.C.C., a factual account of the struggle for tariff protection which made the development of the American synthetic organic chemical industry possible, numerous articles written by persons designated by the A.A.T.C.C. as best qualified to cover specific phases of chemical accomplishment, and further articles of a more personal nature written by individuals whose positions and contacts qualify them to speak with authority on textile chemical affairs throughout the last twenty-five years.

The Synthetic Organic Chemical Manufacturers Association has prepared a history of their Association (which also is celebrating its twenty-fifth anniversary this year), and the inclusion of this twenty-five-year history of the S.O.C.M.A. will be an important feature of the issue.

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OCTOBER 21, 1946

VOLUME 35 NUMBER 21

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	Stantex #3006	
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	Tallcfin	Sulfonated tallow
	Rubinol	Sulfonated cocoanut oil
	Wax Cream	Blend of softening waxes
Splashproofing and Waterproofing Agents	Stantex Splashproof	Colloidal waxes and metal salt dispersion
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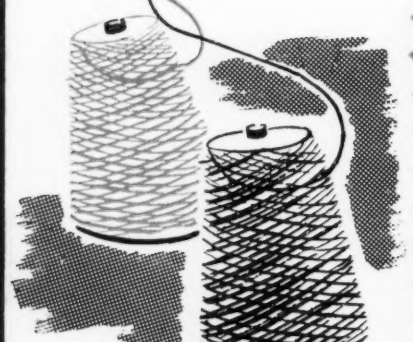

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AMERICAN
DYESTUFF REPORTER

VOLUME 35 OCTOBER 21, 1946 NUMBER 21

The Permanence of Flame-Proofed Fabrics

S. A. RULON, M. J. SOSTMANN, and I. L. PHILLIPS
Textile, Plastics & Technical Service, Inc.

Synopsis

The permanence of fabrics flame-proofed by antimony oxide and chlorinated paraffin was found to be affected by heat, and by light with or without water being present. The finishing compound exerts a protective action against loss of tensile strength in addition to maintaining the resistance to flame.

DURING the war years, requirements for flame-proof tentage were enormous, resulting in the organization of an extensive research and development program with its main stimulus coming from the Jeffersonville Quartermaster Depot. Performance specifications such as Army Specification JQD-242, U. S. Navy 24-C-20, and Federal Specification CCC-D-746 were set up to test not only flame-proofness but the equally important permanence of the treated fabric. It is inevitable that the war-induced progress in the science of flame-proofing will be carried over into numerous industrial and general civilian applications.

Modern treatments depend upon the action of the oxides of antimony, tin, zinc, and related elements in conjunction with a halogenated organic material such as chlorinated paraffin.

The present investigation has explored separately and mutually the effects of heat, light, and moisture acting upon fabric treated in this fashion. Inasmuch as satisfactory performance involves the durability of the material, special attention was given to the retention of both char resistance and tensile strength.

Test Procedures

HEAT TESTS were made in a laboratory oven for six days at various temperatures, and also by heating at 105° C. for various periods.

WATER TESTS were made both in a tank in which the water was changing at the rate of three times an hour, and in still water to which a fungicide had been added.

ARTIFICIAL WEATHERING TESTS were carried out in a National Artificial Weathering Unit, Model X1A, for 100 hours. Tests were made with and without the water spray, and with ultraviolet and infrared carbons as well as the usual Sunshine arc.

TENSILE STRENGTH TESTS were all warpwise, and followed standard ASTM practice—using the grab method (D-39-39). The normal strength variation of the greige goods, which was found to be ± 6 per cent, was taken into account in evaluating the test results.

ACIDITY was determined with indicators, using bromthymol blue, bromcresol green, and phenol red.

FLAME RESISTANCE was measured by the method of Specification JQD-242, in which the vertically-hung goods is subjected for 12 seconds to the action of an inch-and-a-half luminous Bunsen Burner flame, following which the goods is allowed to flame and char until self-extinguished, the flaming time in seconds being noted, as well as the length of char in inches.

TEST SAMPLES, both greige and finished, were all cut from the same roll of 12.29 oz. Army Duck. The greige goods was raw cotton not treated or sized in any way. The finish was a standard formulation for this type of fireproofing, an add-on of 50 per cent (± 2) being maintained throughout.

Pigment	40 00
Chlorinated Paraffin	38.82
Resin	10.50
Fungicide	10.68

Three 4-inch strips lengthwise of the roll were torn from the center 12 inches of the goods, so that triplicate samples were available for each test. Tests were all made at room conditions.

Tensile Strength Deterioration

THE EFFECT OF HEAT is shown in Table I and Figures 1 and 2. The data indicates a breakdown temperature at about 115° C., above which deterioration becomes quite rapid. This holds for both finished and greige goods, though the strength of the treated material after 30 days at 105° C. is still greater than the initial strength of the greige.

TABLE I

TENSILE STRENGTH (LBS.)

Greige Goods 6 Days, @	Strength	*Treated Goods* 6 Days, @	Strength
Room temp.	188	Room temp.	257
85°C	194	85°C	243
105°C	198	105°C	231
115°C	183	115°C	211
130°C	125	130°C	63
105°C	*Strength*	*105°C*	*Strength*
Initial	188	Initial	257
4 Days	188	4 Days	237
6 Days	198	6 Days	231
8 Days	183	8 Days	231
12 Days	181	12 Days	209
20 Days	183	20 Days	199
30 Days	174	30 Days	200

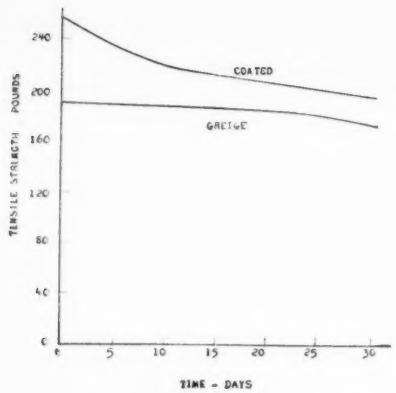

Fig. 1. Loss in Tensile Strength of Cloth Samples heated at 105° C. for a Number of Days.

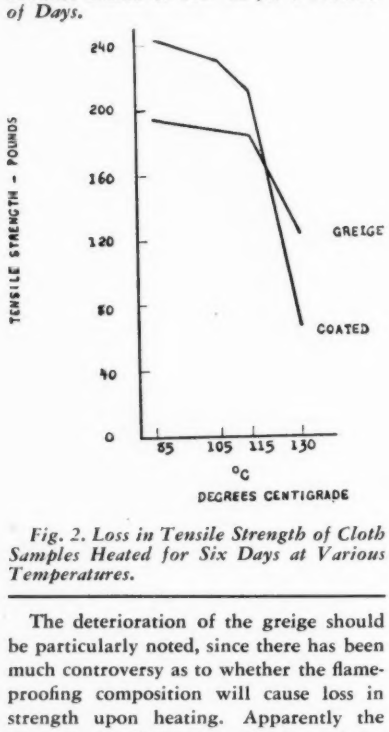

Fig. 2. Loss in Tensile Strength of Cloth Samples Heated for Six Days at Various Temperatures.

The deterioration of the greige should be particularly noted, since there has been much controversy as to whether the flame-proofing composition will cause loss in strength upon heating. Apparently the greatest part of the strength loss with increasing temperature comes from a degradation of the cellulose itself which begins to be particularly severe just above 115° C. Slow decomposition is known to occur beginning at 120° C. *(3)*, possibly due to the loss of chemically-bound water. Although the loss of mechanically-held water should have little effect, removal of that which is chemically bound would understandably have a serious permanent effect on the tensile strength.

Even though the ultimate strength value of treated fabric when heated at 105° C. is higher than that of the similarly heated greige goods, its actual loss is greater because of its initially higher value. Furthermore, the strength of the treated material when heated six days at 130° C. falls to

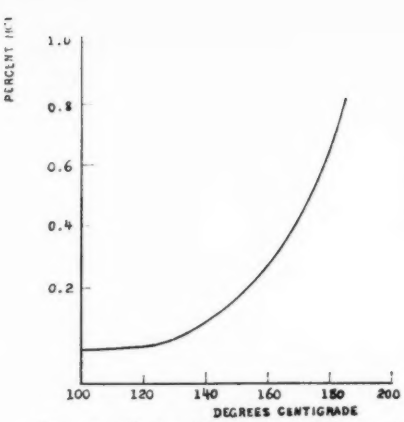

Fig. 3. Hydrochloric Acid Liberated from Hercules Powder Company's 42 per cent Chlorinated Paraffin After Four Hours Heat at Various Temperatures. (Replotted from Hercules' Booklet.)

a value lower than that for the greige. The explanation can be found in Figure 3, where chlorinated paraffin is demonstrated to have a 400 per cent increase in decomposition rate as the temperature is raised from 100° to 130° C. Release of an abnormal amount of HCl is thus indicated as the cause of the extra tendering action when the finished goods is subjected to heat.

THE EFFECT OF WATER alone is to cause an increase in tensile strength of both greige and finished goods, as shown in Table II and Figure 4. The presence of the flame-proofing compound is without effect on the results and the increase in both cases can be attributed to shrinkage of the fabric.

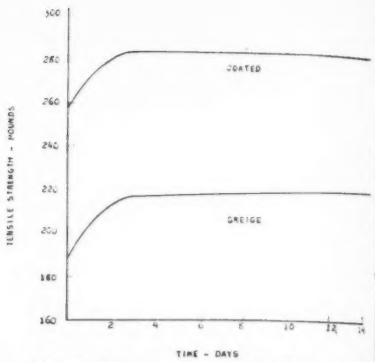

Fig. 4. Increase in Tensile Strength of Cloth Samples Soaked in Water at Room Temperatures for a Number of Days.

THE EFFECT OF ARTIFICIAL WEATHERING. With Sunshine carbons and no filters in the Weathering Unit, tests were made to separate the various factors usually present in such a test, namely light and water. Table III shows the effect with light alone, and Table IV the effect of a combination of light and water. In either case, heat from the arc is also present as a potential factor to cause deterioration.

Both these sets of data show the finished fabric to have a smaller percentage loss in strength than does the greige.

The extraordinary effect of water in accelerating the decomposition is not because of the water alone, as shown above, and must accordingly be considered as due to the cumulative action of the water and the light; in fact, it should be noted that the presence of water causes a strength loss at 25 hours equivalent to that at 100

TABLE II

TENSILE STRENGTH (LBS.)

Greige Goods			*Treated Goods*		
Immersion	*Strength*	*Increase in Strength*	*Immersion*	*Strength*	*Increase in Strength*
Initial	188	..	Initial	257	..
2 Days	213	25	2 Days	281	24
4 Days	217	29	4 Days	283	26
6 Days	218	30	6 Days	285	28
14 Days	220	32	14 Days	284	27

TABLE III

TENSILE STRENGTH (LBS.)

NO WATER—NO FILTERS

	Greige Goods Weatherometer Hours					*Treated Goods Weatherometer Hours*				
Upper Rack	*0*	*25*	*50*	*75*	*100*	*0*	*25*	*50*	*75*	*100*
Sunshine Carbons	188	115	104	102	100	257	244	223	213	211
* Industrial U Carbons	188	101	92	92	86	257	229	227	227	227
* Industrial E Carbons	188	108	89	89	86	257	235	235	229	227
Lower Rack										
Sunshine Carbons	188	121	104	102	102	257	244	238	228	227
* Industrial U Carbons	188	103	92	92	87	257	243	243	238	229
* Industrial E Carbons	188	124	96	95	86	257	251	251	230	229

* Industrial U Carbons—Ultraviolet
* Industrial E Carbons—Infra-red

TABLE IV
TENSILE STRENGTH (LBS.)
WITH WATER—NO FILTERS

	Greige Goods Weatherometer Hours					Treated Goods Weatherometer Hours				
Upper Rack	*0*	*25*	*50*	*75*	*100*	*0*	*25*	*50*	*75*	*100*
Sunshine Carbons	188	118	89	70	64	257	210	181	169	142
* Industrial U Carbons	188	80	71	..	..	257	223	195	165	125
* Industrial E Carbons	188	109	77	67	57	257	230	170	132	129
Lower Rack										
Sunshine Carbons	188	127	93	76	66	257	233	198	196	176
* Industrial U Carbons	188	85	76	..	..	257	230	216	186	146
* Industrial E Carbons	188	123	82	73	57	257	233	173	172	171

* Industrial U Carbons—Ultra-violet
* Industrial E Carbons—Infra-red

hours when water is not present. Moreover the water-sprayed samples were still losing strength at 100 hours, whereas those not sprayed with water appeared to be levelling off.

The strength loss might be explained as being caused by photochemical decomposition of chlorinated paraffin to release HCl. The resultant acid attack might cause the formation of hydrocellulose *(5)* or depolymerization of the cellulose chain *(7)*, and this effect would be explicably greater in the presence of water. Unfortunately for this theory, the greige goods lost strength faster than did the treated fabric, so that whether or not the finishing compound furnishes a source of deterioration, its overall effect is to exert a protective action. The assumption must be that the photochemical effect upon the cellulose itself is more pronounced *under the conditions of test* than is attack on the cellulose by any acid that may conceivably be formed in the finishing compound.

Tables III and IV show the effect of using carbons which emphasized infrared or ultraviolet portions of the spectrum (Figures 5, 6, and 7). The worst degradation occurs with a combination of water and ultraviolet light; without water, both infrared and ultraviolet have about the same effect, though each is more severe than the Sunshine carbons. The design of the Weathering Unit causes uneven light distribution on its two racks when the Sunshine Carbons are in use. Figure 8 shows that in the ultraviolet, upper and lower racks receive equal radiation, while in the infrared the upper rack receives a greater proportion. The spread of the radiation characteristics of the Sunshine carbons thus explains the large numerical differences between tests on the two racks, although the results show identical trends when plotted.

Degradation differences between the several types of carbon cannot be due to any large temperature differentials (Table V), but may possibly be traced to the formation of oxycellulose by ultraviolet radiation *(2, 9)*.

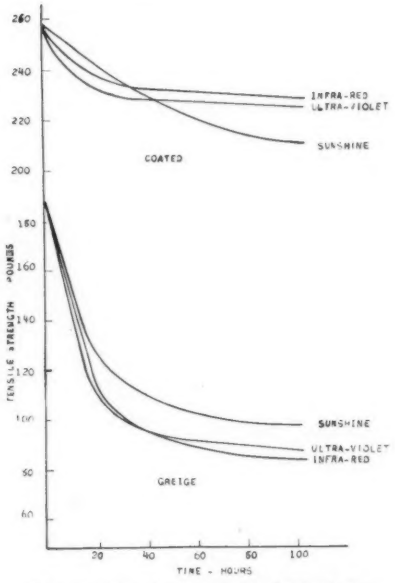

Fig. 5. Loss in Strength of Cloth Samples Exposed in National Weathering Unit for Various Periods of Time—Upper Rack, No Water Running.

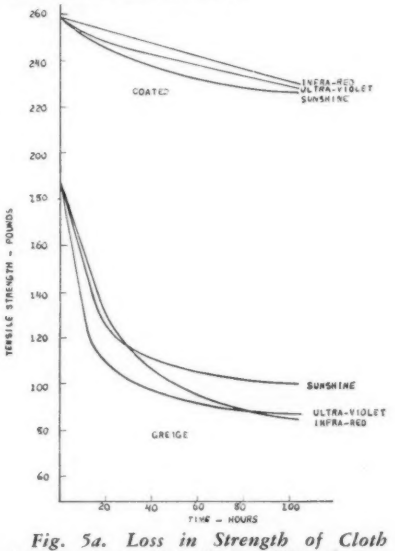

Fig. 5a. Loss in Strength of Cloth Samples Exposed in National Weathering Unit for Various Periods of Time—Lower Rack, No Water Running.

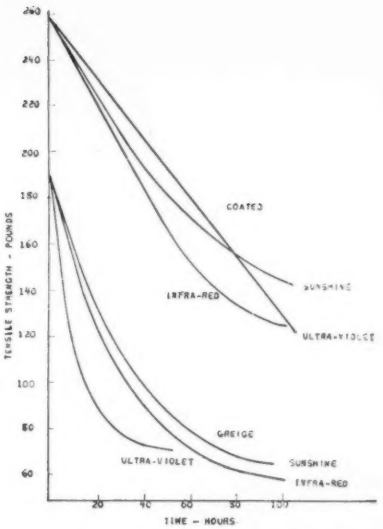

Fig. 6. Loss in Strength of Cloth Samples Exposed in National Weathering Unit for Various Periods of Time—Upper Rack, Standard Water Flow.

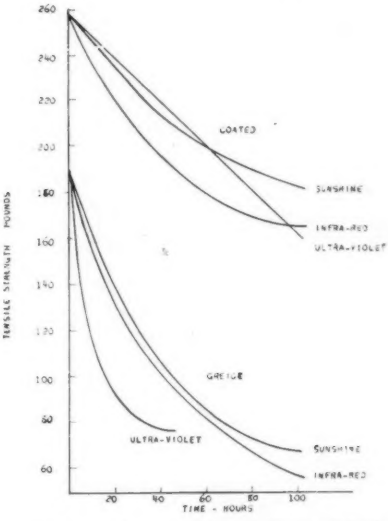

Fig. 6a. Loss in Strength of Cloth Samples Exposed in National Weathering Unit for Various Periods of Time—Lower Rack, Standard Water Flow.

Since the color of the pigments in the finish must also influence the wave-length of the radiation which reaches the goods, a series of exposure tests of various colors was made as shown in Figure 9 and Table VI. Those samples in which infrared absorption by the pigment is greatest (especially lampblack) show the greatest losses in strength.

From these two approaches, it can be concluded that the overall degradation of the greige or treated fabric when exposed to light is primarily caused by the ultraviolet end of the spectrum. Minor variations can presumably be traced to the in-

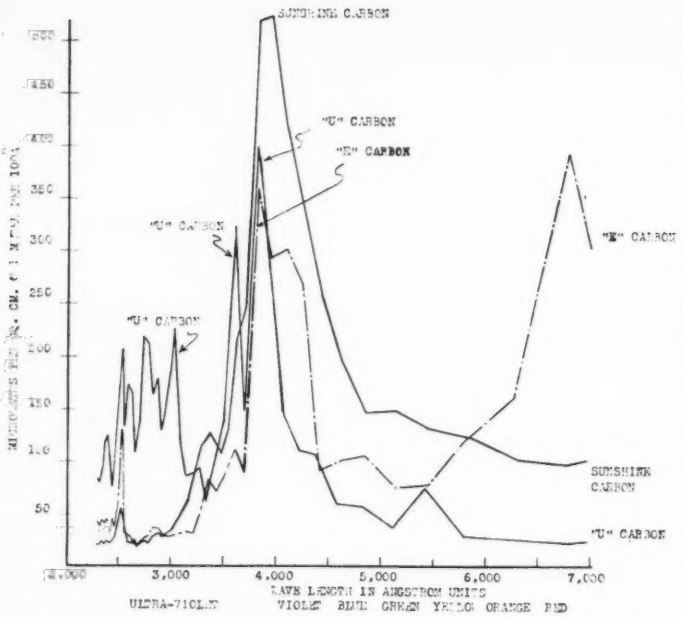

Fig. 7. Radiation Characteristics of Sunshine, "E" and "U" Carbons.

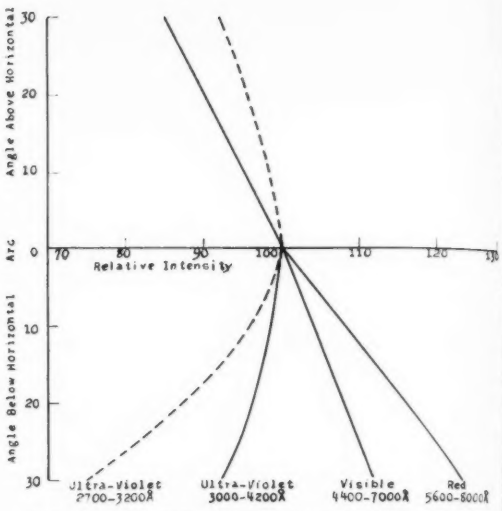

Fig. 8. Intensity Distribution in Vertical Plane Around Sunshine Arc. (Gives Relative Intensities on Surfaces Facing Arc and Equidistant From It.)

frared, particularly if these tables are correlated with the prevously mentioned data covering the effect of heat.

Specially stabilized chlorinated paraffin, in which the stabilizer was water-insoluble and non-volatile, was tested with the results shown in Table VII. Under normal conditions the stabilizer is either volatile or soluble and its inevitable loss in the Weathering Unit might conceivably permit release of an excessive amount of HCl. The data of Table VII eliminate this possibility. Also, since the tests on greige goods, where HCl formation is out of the question, show similar losses in strength, the degradation in the Weathering Unit cannot be traced to excess HCl liberated due to loss of stabilizer.

ACIDITY. Table VIII summarizes the pH changes throughout these tests. The greatest effect occurs upon heating. Upon weathering, there is no direct correlation between pH and loss in tensile strength; the infrared carbons develop the greatest acidity, and it is noteworthy that the greige, which is made of raw cotton, untreated in any way, shows the greatest drop in pH.

The cause of this appearance of an acidic reaction is heat, whether effected by oven or by infrared radiation. Since it occurs in both greige and treated fabric, it cannot be ascribed to release of HCl from the chlorinated paraffin but must have its source within the cellulose itself. Acid groups have been found in cellulose *(4)* as well as in oxycellulose *(6)*, in which they may develop by oxidation of the alcohol groups *(1)*; secondly cellulose chains bearing carboxyl groups have been postulated *(8)*. Some such effect is undoubtedly occurring in these tests.

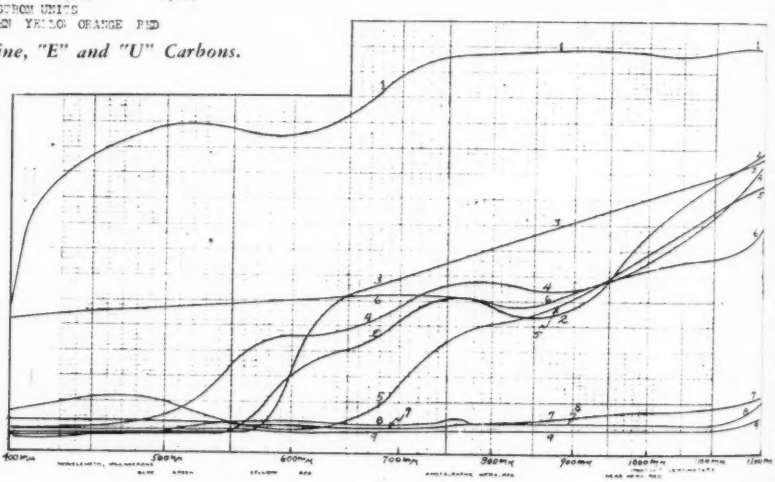

Fig. 9. Spectrophotometric Curves Derived From Fabric Treated with Fireproofing Compounds Colored with Various Pigments. 1—Titanium Dioxide; 2—Red Iron Oxide; 3—Toluidine Red; 4—Yellow Iron Oxide; 5—Ultramarine Blue; 6—Aluminum; 7—Iron Blue; 8—Olive Drab Blend; 9—Lampblack.

TABLE V

WEATHEROMETER TEMPERATURES

	Sunshine Carbons	Industrial U	Industrial E
	Air at Face of Goods		
Upper Rack	66°F	58°F	58°F
Lower Rack	52°F	36°F	51°F
	Air Between Two Layers		
Upper Rack	83°F	78°F	90°F
Lower Rack	75°F	65°F	72°F

Use of $CaCO_3$ As An Acid Acceptor

Calcium carbonate is frequently included in this type of finishing compound as an acceptor for any HCl which may be released, with the idea that the amount of $CaCO_3$ present may be related to the extent of protection against the deteriorating effect of light. Samples of the regular finish, a white, and a deck blue, were studied over a range of $CaCO_3$ contents.

(Continued on Page 501)

Proceedings of the
American Association of Textile Chemists and Colorists

OCTOBER 21, 1946

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One Hundred and Forty-eighth Meeting of the Research Committee

September 27, 1946

THE 148th meeting of the Research Committee followed the Council meeting in New York on Friday afternoon, Sept. 27, 1946. Present were Chairman Louis A. Olney Presiding, W. D. Appel, A. G. Ashcroft, E. C. Atwell, K. H. Barnard, G. L. Baxter, E. C. Bertolet, J. R. Bonnar, H. Christison, W. E. Coughlin, R. F. Culver, E. S. Chapin, M. A. Dahlen, J. W. Dalton, C. W. Dorn, C. Z. Draves, A. W. Etchells, E. Freedman, W. B. Griffin, M. Harris, A. E. Hirst, H. E. Hager, W. A. Holst, N. A. Johnson, A. J. Kellner, P. J. Kennedy, D. P. Knowland, L. S. Little, J. E. Lynn, A. R. Macormac, J. E. Meili, C. J. Monego, W. R. Moorhouse, A. D. Nute, F. A. Prisley, C. H. A. Schmitt, H. A. Scruton, H. G. Scull, C. A. Seibert, J. H. Skinkle, G. A. Slowinske, T. R. Smith, H. W. Stiegler, H. B. Sturtevant, F. Tripp, P. Theel, J. F. Warner, H. E. Wilde, O. F. Wohlgemuth, P. J. Wood, and H. C. Chapin, Secretary.

Mr. Little, reporting for the Executive Committee on Research, asked for exhibits from research sub-committees at the Boston convention and suggested that local Sections undertake solution of research problems. Mr. Griffin reported that the Southeastern Section had organized its own research committee, which was already at work on a problem.

The Chairman discussed difficulties in arranging sub-committee meetings without conflict, asked for prompt response from chairmen to inquiries regarding choice of time, and raised the question whether such meetings could be held successfully at the Boston convention. It was voted that they be held there only on the initiative of such committees as desired to meet.

Dr. Stiegler discussed work in Lowell on water repellency tests, the detergency machine, perspiration tests and the Quartermaster project. He invited suggestions from sub-committees for use of laboratory facilities during lulls in work already in progress. Previous moisture content of fabric had been found to have marked effect on results of immersion, dynamic absorption and hydrostatic pressure tests. Experiments were being made with the present standard perspiration test, a modification with samples rolled to produce firmer contact, and a modification of the plate method with samples and glass plates in a frame under controlled pressure. On the International Salt Co. project he reported a meeting just attended by a representative of that company, Professor Ewing and his associates from Lehigh University, and representatives of the Association's Wool Committee, at which the original dyeing experiments involving sodium chloride and sulfate had been extended to include phosphates, acetates, and a commercially pure sodium chloride available at slightly higher cost than the ordinary grade containing chlorides of calcium and magnesium.

On atmospheric fading of dyed acetate rayon Mr. Scull reported excellent agreement between various laboratories on test results, but difference of opinion as to what constitutes appreciable fading in the eyes of the trade. Mr. Knowland had suggested a stereoscope for comparing these samples, and Mr. Monego had endeavored to make the comparison quantitative by a split field device with compensating color filters, which he demonstrated. Mr. Knowland showed a further development of the Duplex Crockmeter shown by the Calco Chemical Division of the American Cyanamid Co. at the New York convention, consisting of two single crockmeters operated simultaneously by a single crank. Mr. Appel reported favorable comments on both Crockmeter and Color Transfer Charts from the British Society of Dyers and Colourists during his visit in England this summer.

Dr. Olney raised the question whether the Association should acquire more multifiber cloth for sale. There was objection to its sleazy character, and darkness of the wool despite its having been bleached, also to the presence of certain fibers little used in tests. It was nevertheless decided that more be ordered for manufacture as soon as possible.

For the Committee on Wash Fastness Mr. Dorn reported that rayon samples were still in process of laundering. As Secretary of the committee Mr. Seibert stated that efforts to find a consistent laundering practice, upon which to base Association fastness tests, had proved so fruitless that the Committee might be forced to determine by its own experiments what constitutes sound laundry practice for different types of goods and soiling.

On dimensional change in fabrics Dr. Coughlin reported that his committee likewise had found great variety of laundry practice, but with less effort on test methods because in any laundering, cotton or rayon eventually reaches stable dimensions. Gallon containers in a Launderometer had produced dimensional changes comparable with those in laundry dash wheels.

Professor Theel hoped that Standard Methods of Chemical Analysis, including as before most methods commonly useful in textile laboratories, would be completely revised by his committee this year.

Dr. Lynn, reporting that the Committee on Evaluation of Textile Finishing Materials was in process of reorganization, urged everyone having a special method for any particular resin to publish it.

On water repellency Mr. Slowinske reported work in progress at the National Bureau of Standards, Philadelphia Quartermaster Depot, Lowell Textile Institute, and duPont Co. laboratories on comparisons of the American Association of Textile Chemists and Colorists hydrostatic tester, the impact penetration tester, the Harris and Sookne drop penetration tester, the Bundesman tester, the Sea Island Mills wind and rain tester, the duPont rain tester, and the A.A.T.C.C. rain tester. The duPont Co. had been making laboratory tests on a variety of fabrics, in comparison with tests in the Philadelphia Q.M. Depot rain room, on garments of single and double thickness; and would present the results at the January meeting of the New York Section. The effects of washing and laundering on water repellent fabrics were under investigation for the committee by Mr. Freedman and Mr. Borghetty, respectively, but because of the large number of variables involved it was improbable that the committee would undertake test developments. The committee deplored the advertising of fabrics as rain resistant on the basis of the spray test, which does not duplicate the effect of rain. Mr. Appel described his investigation, this summer in Germany, of the Bundesman tester.

which he found still in process of further development. For this reason, and because of lack of materials, he believed export of these machines improbable in the near future. Their salient feature, a rubbing of the under side of the fabric under test, was being incorporated in machines elsewhere in Germany, and on a more extensive scale in England.

Mr. Dalton reported for Mr. Leitch's Committee on Chemical Technology of Wool.

For the Committee on Detergency Mr. Prisley announced a report from Mr. Holland's Hosiery Section on effect of surface active agents on standard soils. The detergency machine had been improved through elimination of pot eyes and through increase in weight of squeeze rolls and pressure upon them, but in the opinion of the committee it was not yet ready for manufacture and further distribution. In reducing grease content of samples it had proved as efficient as mill washers. Experimentation with mineral oil and lamp black standard soils Dr. Stiegler said was unsatisfactory in that detergent effects were not evaluated consistently by visual observation and grease extraction.

Dr. Hager reported that work on flammability tests was being extended to effects of washing and dry cleaning, and to coated fabrics and unsupported films. Mr. Redmond said that his committee was experimenting with two fabrics in hope of finding one just above and one just below limits of acceptability for fire resistance.

Respectfully submitted,
Harold C. Chapin,
Secretary

—♦ ♦—

Meetings, Rhode Island Section

THE Rhode Island Section will hold six meetings during the coming season.

October 25, 1946
November 22, 1946
January 24, 1947
February 28, 1947
March 28, 1947
April 25, 1947

All of the meetings will be held at the Providence Engineering Society Building, 195 Angell Street, Providence, R. I.

Meeting, N.N.E. Sectional Committee

THE first meeting of the Sectional Committee of the Northern N. E. Section, AATCC was held at the Hotel Manger, Boston, Mass., on Friday evening, September 6, 1946 at 6:30 P.M. with the following present:—

George O. Linberg, Frank J. Rizzo, Martin N. Gurley, Jr., Azel W. Mack, Walter J. Hamburger, Ralph E. Hale, Delbert E. Ray, Albert E. Sampson, Herbert E. Wieland, Edward B. Bell, Sawyer F. Sylvester.

Following dinner, Chairman Linberg opened the meeting with the regrettable announcement of Vice Chairman Rizzo's resignation, effective at the next meeting, due to his leaving this section. He will be with the Q.M. Dept. at Philadelphia, Pa., in the future. Mr. Rizzo was also chairman of the Program Committee of this section, and will be missed by all in the N.N.E. Section. The Secretary extended a cordial invitation to Frank Rizzo to be his guest at any time at a N.N.E. Sectional Meeting, including the Silver Jubilee in December.

Frank Rizzo, then gave a full report of a recent meeting of his committee, stating that they have considered the following papers for the coming season:—

1. Multilap Machines.
2. Leather.
3. The Relation of Constitution to Fastness and Dyeing Properties of Dyestuffs.
4. Textile Machinery.
5. Color Photography and the Application of Optical Instruments to Textiles.
6. Color from a Medical Standpoint.
7. Instrumentation in the Textile Industry.
8. Plastics as they Relate to Textiles and many others.

Chairman Linberg accepted Mr. Rizzo's report and commended him and his committee on the splendid work they had all done.

Chairman Linberg appointed Roland Derby, Albert Sampson, Herbert Wieland and Walter Hamburger, with Mr. Hamburger acting as Chairman, as a Committee to present a candidate for Vice Chairman at the October meeting.

The question of the number of meetings, was settled by deciding to have the first meeting October 18, omitting the November meeting, and in 1947 having meetings in January, March, April, May, and the annual outing in June. It was decided to have the next officers' meeting on November 21, to set definite dates for Sectional Meetings.

Chairman Linberg opened a lively discussion as to whether there should be a Membership Committee and drive for new members. Walter Hamburger suggested membership be made desirable by having candidates sponsored instead of solicited. Finally it was voted to have a membership committee to obtain new members.

The first meeting of the season was held Friday, October 18, 1946, at the Andover Country Club, Andover, Mass. The speaker was Ernest Cannity, Chief Engineer of the James Hunter Machine Co., North Adams, Mass. His subject was—"Textile Machinery—German vs. American—Carbonizing and Continuous Fulling Equipment." An added attraction was the showing of the official film of the 1946 World Series.

Del Ray was appointed Chairman *(Pro Tem)* of the Program Committee with the request that he form his own Committee and arranged a definite schedule of meetings. In closing, Chairman Linberg announced plans for the Silver Jubilee Convention were progressing satisfactorily and called on Ralph Hale, who described the work of the Alumni Luncheon Committee.

Respectfully submitted,
H. E. WIELAND
Publicity Chairman
N.N.E. Section.

Meeting, Philadelphia Section

THE fall meeting of the Philadelphia Section was held September 27, in the North Roof Garden of the Bellevue-Stratford. There were 169 attending dinner and 185 present for the meeting.

Curt Baeringer, Chairman, advised the group of the recent death of Dr. Robert E. Rose. Everyone stood in silent prayer in his memory.

Mr. Baeringer then introduced the speaker of the evening, H. F. Creegan of the American Viscose Corporation. His subject was "Control of Shrinkage and Crease Resistance of Viscose Rayon Fabrics."

Respectfully submitted,
A. E. RAIMO, *Secretary*

A New Supply . . .

* * * *

LAPEL BUTTONS

are now available
from the Secretary
at $2.00 each.

* * * *

DR. H. C. CHAPIN
Lowell Textile Institute
Lowell, Massachusetts

Rules for Intersectional Contest

PATRICK J. KENNEDY, Chairman of the Intersectional Contest Committee, has announced the following rules and details to be used as a guide by the various sectional committees. The contest will be held on Friday evening, December 13th, in connection with the Silver Jubilee Convention to be held in Boston.

Subject

Almost any subject may be taken that has originality and practical or scientific value with the single exception that a Section should not use as the body of its paper, work done by some sub-committee of the Research Committee of the AATCC. However this is not intended to prevent a Section from extending or expanding some phase of a general research project. It is merely to prevent any one Section from benefiting from the funds and work done by the Association as a whole. The choice of subject will naturally be governed by the system of rating on which the paper is finally judged. This system of rating is given later.

It is important that the subject be chosen early because the time is always found too short to do the subject justice and, in addition, there are occasionally conflicts in which two Sections may choose the same subject. In such a case, the matter is brought to the attention of both Sections so that they may continue on it or not as they prefer.

The subject is not released for publicity until approved by the National Intersectional Contest Chairman. All news releases must be handled through the National Chairman of Publicity.

Speaker

Any member of the Association may be the speaker. It is usually the Chairman of the sectional contest committee as he is most familiar with the subject. The speaker need not necessarily be a member of the Section for which he is speaking.

Judge

Any member of the Association may be the judge. It is felt, however, that the judge should be, if possible, a member of the Section which he represents in order that each Section may be fairly and equally represented in the final judging.

Naturally, both the speaker and the judge will have to plan to be present at the time of the Contest itself.

The judge chosen by the Section is free to call upon anyone else for expert advice as it is unusual for any one man to be competent in all the fields covered by the different papers. The actual rating of the paper, however, is his alone, and a rating sheet will be supplied him by Dr. Louis A. Olney, who will act as "Chief Justice." Each Section is entitled to be represented by one judge.

Selection of the Prize Winners

The papers of each Section are weighed by the judges on the following basis:

For practical value	30 points max.
For scientific value	30 points max.
For originality	30 points max.
For presentation	10 points max.
TOTAL	100 points

Each judge will rate each paper independently on this basis and the paper getting the highest total number of points will win the contest. It is obvious that considerable emphasis is put on originality and that the paper must present something new and novel, something that has not been published before. The subject may be one of practical money value to a mill or to consumers, or it may be of scientific or fundamental value which perhaps has little direct economic interest. Of course, a reasonable proportion of all three is the one which will get the most points. Some have felt that no value should be given to the presentation, but the majority feel that the speaker and exhibits, slides, or whatever may be used to make the subject clearer and more interesting, should rate a maximum of 10 points.

Details of the Paper

The paper is not restricted as to length but its actual presentation at the contest will be limited to 20 minutes. This means that an abstract of the paper emphasizing its high points, will be given at the meeting, while the paper itself will be published in full in the Proceedings in the AMERICAN DYESTUFF REPORTER. Please note that the paper is the property of the Association and must not be released to any other publication.

The papers must be in the judges' hands at least a month before the actual contest. The judges need a full month to read, review, and rate the papers. In this connection 12 copies of the paper must be furnished. Only one side of the sheet should be used, double spaced, and with ample margins.

An abstract of not over 200 words should be furnished the Chairman of the Intersectional Contest Committee, written in not too technical language, for use by the newspapers.

Contest Committee

Other members of Mr. Kennedy's committee are: Kenneth H. Barnard, Winn W. Chase, J. Robert Bonnar and Frank J. O'Neil.

Each year's contest has made a definite contribution to our increased knowledge of textiles and textile processing and the Chairman of the contest committee indicates that the papers for this year will be the best ever.

Personnel Service

For the purpose of introducing members to prospective employers the Personnel Service will operate, without charge, from Thursday afternoon through Saturday morning at the Silver Jubilee Convention. Those seeking employment should if possible register before the meeting but employers at the meeting, as indicated below. Facilities will be offered employers for arranging interviews with representatives of educational institutions who register at the meeting.

Every candidate for employment should register in advance on two sets of blanks obtainable from the Secretary, P.O. Box 28, Lowell, Mass. Two photographs, approximately 2 x 2½ inches, will be necessary for attachment to the blanks. Late registrations, at the Convention, will be accepted so far as facilities permit.

Employers, registering with the Service at the beginning of the Convention, may consult these qualification records and arrange for appointments. Interviews will be arranged between 2 P.M. and 5 P.M. on Thursday, December 12th; between 9 A.M. and noon, and 2 P.M. and 5 P.M. on Friday; and between 9 A.M. and noon on Saturday.

Further information can be obtained from the Secretary, or at the general registration desk in the Hotel Statler at the Convention.

One Hundred and Fifty-fifth Council Meeting

September 27, 1946

THE Council held its 155th meeting in the Hotel Commodore, New York, N. Y., on Friday morning, September 27th. Present were President William D. Appel, presiding; Hugh Christison and Henry F. Herrmann, Vice Presidents; William R. Moorhouse, Treasurer; Louis A. Olney, Chairman of the Research Committee; Carl Z. Draves, Thomas R. Smith and P. J. Wood, Past Presidents; Edward S. Chapin and Charles H. A. Schmitt representing Northern New England; Allison R. Fletcher and Harold B. Sturtevant representing Rhode Island; Alfred G. Ashcroft, George L. Baxter, and Leonard S. Little representing New York; Arthur W. Etchells and Percival Theel representing Philadelphia; Raphael E. Rupp representing Piedmont; William B. Griffin representing Southeast; Kenneth H. Barnard; and Harold C. Chapin, Secretary.

The Secretary's report of the 154th Council meeting and financial report of September 20th, and the Treasurer's report of July 31st, were accepted. A proposed amendment to the By-laws to cover a new standing committee on Conventions was referred back to the Committee on Constitution and By-laws for addition of a Standing Committee on Technical Programs and definition of its authority in arrangement of technical programs at conventions. Resolutions were adopted in memory of Past President Robert E. Rose, recently deceased.

Mr. Little reported for the Executive Committee on Research; Dr. Olney for the Publications Committee with particular reference to the 1946 Year Book, and for the Colour Index Committee.

The National Retail Dry Goods Association and Talon, Inc. were elected to Corporate Membership.

Each of the following was elected to the class of membership specified, as of thirty days from publication of application, provided no objection be received meanwhile by the Secretary.

Senior

E. W. Akin
W. N. Akst
A. G. Balfrey
J. W. Barton
S. Berry
H. Bogaty
T. E. Bonaccorsi
A. E. Bride
R. F. Caroselli
N. I. Day
J. C. de Hullu
R. M. Denny
H. C. Donaldson, Jr.
J. P. Donnelly
R. C. Dowling
E. L. Duke
J. P. Easley
G. S. Eaves
C. A. Everett
H. M. Fry
R. K. Gagnon
G. M. Gantz
F. B. Gardner
R. J. Gentilhomme
H. P. Glover
B. Goldstein
F. Gonet
T. Greave, Jr.
W. P. Green, Jr.
A. E. Grimm
E. R. Grimm
M. Guimaraes
K. Halversen
D. Hammonds
T. W. Hardy
M. B. Hays
E. R. Heintz
E. P. Henley
E. W. Hill
J. M. Johnson, Jr.
K. C. Johnson
H. N. Jones
M. Keller
F. C. Kinch
J. A. Knipe
S. E. Kranler
H. L. Krogius
D. E. Kualnes
E. T. Lessig
J T. Linster
O. W. Love
W. F. Luther
M. B. Mahaffee, Jr.
H. Markarian
S. M. McKeown
F. K. Mesek
C. T. Moore
R. W. Moses
A. H. Nadelman
R. E. Nelson
H. Neumann
D. P. Nicholas
L. A. Oberly
J. Odorisio
W. R. Overs
S. Pikalow, Jr.
H. Price
C. Pruiksma
J. A. Pufahl
K. A. Reeve
O. C. Rosenberger
O. E. Sandelin
F. R. Schaefer
W. H. Schoellhorn
K. Schwartz
J. J. Serius, Jr.
H. S. Sherburne
M. H. Silverman
S. E. Simon
J. E. Simpson
S. Krawiec
C. R. Smith
J. O. Smith
R. J. Smith
J. M. Stephenson
M. A. Stinnette
P. J. Sullivan
W. H. Sites
W. E. Taylor
S. G. Turnbull, Jr.
R. J. Tyrrell
W. H. A. Weber, Jr.
M. W. Winkler

Junior

W. Adler
O. J. Agricola
R. E. Atkinson
G. H. Glass, Jr.
L. Linden
G. B. Myers
J. H. O'Donnell, Jr.
R. A. Peabody
J. J. Shapiro
M. R. Sullivan
J. Toledo

Associate

H. A. Beaton
L. S. Bovier
R. G. Brown
T. R. Brown
J. W. Bryant
N. Cohen
N. J. Crothers
F. Cutter
C. R. Deane
W. F. Denning
B. M. Dyer
J. S. Friedman
S. V. Horrdin
H. R. Jagenburg
T. C. Jordan
E. F. Juncadella
P. G. Mansuy
S. M. McCabe
C. H. Minten
J. B. O'Neal
W. J. Pauli
R. G. Robertson
C. J. Schultheis
C. E. Seel
A. B. Stigen
A. K. Stone
H. Taubenfeld-Tadd
R. M. Town
C. S. Venkataraman
M. H. West

Student

W. F. Loeb
K. Singh
C. P. Sumar

SECRETARY'S FINANCIAL REPORT — SEPTEMBER 20, 1946

Received and transmitted to Treasurer	*Applications*	*Dues, regular and reinstate*	*Dues, Corporate and Sustaining*	*Miscellaneous*	*Totals*
Aug. 1, 1945 to June 7, 1946..	3,317.50	17,818.87	38,640.00	10,293.82	70,070.19
June 7 to Aug. 31, 1946.....	482.50	253.50	425.00	2,707.07*	3,898.07
Total for fiscal year.....	3,800.00	18,072.37	39,065.00	13,030.89	73,968.26
Leaving deposited by Treasurer with Secretary					2,000.00
Rec. Aug. 1 to Sept. 20, 1946..	304.50	70.00	———	2,424.20**	2,798.70

** Miscellaneous items*	*To July 31**	*To Sept. 20***
Dividends	155.00	39.80
New York meeting registrations, net	1,156.82	
American Viscose scholarsh.p		1,500.00
Year books	229.96	169.20
Analytical Methods	4.98	1.00
Reporters	59.16	53.25
Reprints	1.20	3.45
Gas fading units	33.00	48.00
Multifiber cloth	336.00	240.00
Dyed Standards	46.00	13.00
Moth cloth	42.50	41.00
Knitted tubing	20.00	61.25
Color transference charts	22.00	14.00
Water test apparatus	129.75	64.50
Crockmeters	178.00	144.90
Crock cloth	73.30	30.50
Flammability testers and royalties	250.00	
	2,737.67	2,424.25
Bank charges	.60	.05
	2,737.07	2,424.20

Transferred from other classifications to Senior Membership were: T. Bardzik, M. C. Beard, J. J. Black, S. J. Ciongoli, H. R. Dinges, R. B. Finch, J. K. Frederick, Jr., W. F. Fry, R. N. Genest, J. J. Gordon, J. F. Hagen, L. T. Hall, M. E. Hanson, P. E. Keeney, J. Kuszko, E. A. Leonard, D. M. Lyle, A. P. Morrone, H. E. Rollins, Jr., J. E. Sands, D. L. Scheer, J. E. A. Schroder, E. J. Smith, W. S. Trezise, R. E. L. Winson, R. M. Zelen.

Respectfully submitted,
H. C. CHAPIN,
Secretary

Silver Jubilee Convention
December 12, 13 and 14
Hotel Statler, Boston

CALENDAR OF COMING EVENTS

NEW YORK SECTION
Meetings: November 22, January 31, March 7, May 2.

RHODE ISLAND SECTION
Meetings: October 25, November 22, January 24, February 28, March 28, April 25. (Providence Engineering Society Hall, 195 Angell Street, Providence.)

PIEDMONT SECTION
Meeting: October 26. (Hotel Charlotte, Charlotte.)

SOUTHEASTERN SECTION
Meeting: October 26. (Ansley Hotel, Atlanta.)

PHILADELPHIA SECTION
Meetings: November 15, January 17, February 28, April 11, May 23.

NORTHERN NEW ENGLAND SECTION
Meetings: January, March, April, May.
Outing: June.
(Dates to be announced)

NATIONAL CONVENTION
Silver Jubilee Convention: December 12, 13 and 14. (Hotel Statler, Boston.)

SUB-COMMITTEES
Meetings: December 12. (Hotel Statler, Boston.)

INTERSECTIONAL CONTEST
December 13. (Hotel Statler, Boston.)

RESEARCH COMMITTEE
Meeting: December 14. (Hotel Statler, Boston.)

EMPLOYMENT REGISTER

This column is open for four insertions per year, per member, without charge. Blanks can be obtained from, and filed with, the Secretary of the Association, Lowell Textile Institute, Lowell, Mass. It is understood that these will be open to inspection by prospective employers, who can obtain further information through the code numbers from the Secretary.

46-5

Education: Lowell Textile School, Night, Chemistry, 1942.
Experience: Hosiery dyeing and finishing.
Age 29; married; references.

46-7

Education: Graduate, Bradford Durfee Textile School, 1933.
Experience: Five years as Textile Engineer, developing Non-woven fabrics.
Age 31; married; 3 dependents; references.

46-9

Education: Graduate, Philadelphia Textile Inst., Chem. & Dye.
Experience: Inspector, Quartermaster Corps. Staff Sgt., U.S.A.A.F., Sta. Chief, Meteorology.
Age 24; married; references.

46-10

Education: B. S., Pratt Inst.
Experience: Leather finishing. U. S. Army Medical Corps, Pharmacist, C. W. S. Instructor. Lab. application work on textile chemical specialties. Development of colors in laboratory and pilot plant. Interested in tech. sales service.
Age 31; single.

46-11

Education: PhD. Chem. Engg., Geneva, Switzerland.
Experience: Chief Chemist of Textile Mills, silk and cotton.
Age 57; single; references.

46-15

Education: High school.
Experience: Leather and fur dyeing, 28 years.
Age 52; married.

46-16

Education: High school; Lowell Textile Evening School; N. H. State Univ., extension course.
Experience: 21 years dyeing cotton and mixtures, and hosiery.
Age 46; married; references. North preferred.

46-18

Education: graduate Lowell Textile Institute, high standing, 1946.
Experience: two summers in textile plant laboratories.
Age 25; veteran; unmarried.

46-19

Education: R. I. School of Design, night course in chemistry & dyeing.
Experience: Ten years dyeing cotton goods.
Age 29; married; northeast U. S. preferred.

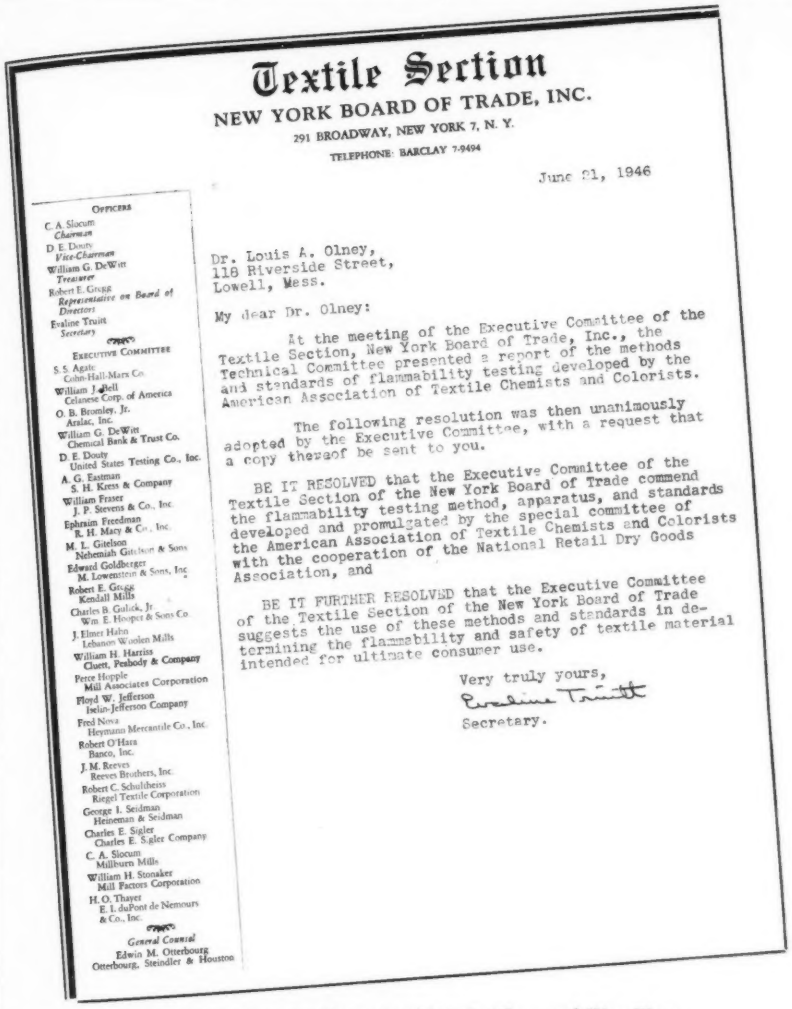
46-20

Education: Chemical Engineer, Helsingfors Univ., and Finland Inst. of Tech.
Experience: Organic chemical research; nearly 20 years head of bleaching, dyeing and finishing dept. handling linen, cotton, jute, etc., in Finland.
Age 46; married; references in U.S.A.

46-21

Education: A.B., Brooklyn College; graduate study, chemistry, N. Y. Univ.
Experience: 1½ years' laboratory control and development work; 1½ years in U.S. Army photographic laboratory.
Age 25; single; references.

Applicants who obtain employment should notify the Secretary IMMEDIATELY



Textile Section
NEW YORK BOARD OF TRADE, INC.
291 BROADWAY, NEW YORK 7, N. Y.
TELEPHONE: BARCLAY 7-9494

June 21, 1946

OFFICERS
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D. E. Douty, *Vice-Chairman*
William G. DeWitt, *Treasurer*
Robert E. Gregg, *Representative on Board of Directors*
Evaline Truitt, *Secretary*

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William J. Bell, Celanese Corp. of America
O. B. Bromley, Jr., Aralac, Inc.
William G. DeWitt, Chemical Bank & Trust Co.
D. E. Douty, United States Testing Co., Inc.
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Charles E. Sigler, Charles E. Sigler Company
C. A. Slocum, Millburn Mills
William H. Stonaker, Mill Factors Corporation
H. O. Thayer, E. I. duPont de Nemours & Co., Inc.

General Counsel
Edwin M. Otterbourg, Otterbourg, Steindler & Houston

Dr. Louis A. Olney,
118 Riverside Street,
Lowell, Mass.

My dear Dr. Olney:

At the meeting of the Executive Committee of the Textile Section, New York Board of Trade, Inc., the Technical Committee presented a report of the methods and standards of flammability testing developed by the American Association of Textile Chemists and Colorists.

The following resolution was then unanimously adopted by the Executive Committee, with a request that a copy thereof be sent to you.

BE IT RESOLVED that the Executive Committee of the Textile Section of the New York Board of Trade commend the flammability testing method, apparatus, and standards developed and promulgated by the special committee of the American Association of Textile Chemists and Colorists with the cooperation of the National Retail Dry Goods Association, and

BE IT FURTHER RESOLVED that the Executive Committee of the Textile Section of the New York Board of Trade suggests the use of these methods and standards in determining the flammability and safety of textile material intended for ultimate consumer use.

Very truly yours,
Evaline Truitt
Secretary.

Letter received regarding A.A.T.C.C. Flammability Test

Membership Applications

Senior

Alice G. Balfrey—Textile Technologist, Deering Milliken Research Trust, Clemson, S. C. Sponsors: K. H. Barnard, D. M. Musser.

Sydney Berry—Dyer & Finisher, W. R. Grace & Co., Lima, Peru. Sponsors: C. A. Seibert, C. A. Sylvester.

Herman Bogaty—Textile Technologist, National Bureau of Standards, Washington, D. C. Sponsors: W. D. Appel, K. S. Campbell.

Earl L. Duke—Chemical Supervisor, E. I. du Pont de Nemours & Co., Wilmington, Del. Sponsors: A. O. Bradley, V. C. Rogers.

Charles A. Everett—Asst. Prof. of Chemistry & Dyeing, Lowell Textile Institute, Lowell, Mass. Sponsors: C. L. Howarth, H. C. Chapin.

Benjamin Goldstein—Chemist, Amalgamated Color & Chemical Co., Boston, Mass. Sponsors: E. S. Chapin, W. C. Durfee.

Thomas Greave, Jr.—Dye Laboratory Asst. Philadelphia, Pa. Sponsors: J. Dixon, T. J. Scanlon.

Margaret B. Hays—Materials Engineer, Naval Air Experiment Sta., Philadelphia, Pa. Sponsors: B. S. Bronner, E. Freedman.

Fred C. Kinch—Dyer, Vesta Underwear Co., Pawtucket, R. I. Sponsors: R. C. Patton, H. M. Manchester, Jr.

Stanley E. Krahler—Research Chemist, E. I. du Pont de Nemours & Co., Wilmington, Del. Sponsors: C. A. Seibert, C. A. Sylvester.

Donovan E. Kualnes—Division Head, Jackson Lab., E. I. duPont de Nemours & Co., Wilmington, Del. Sponsors: J. F. Laucius, O. Stallmann.

John T. Linster—Chemist, E. I. du Pont de Nemours & Co., Deepwater Point, N. J. Sponsors: E. S. Wierman, C. M. Scott.

Alfred H. Nadelman—Chemist, International Paper Co., Niagara Falls, N. Y. Sponsors: T. F. Murphy, H. Fischer.

Heinz Neumann—Textile Chemist, Elmhurst, L. I., N. Y.

Kenneth A. Reeve—Development Engineer, Calco Chemical Div., American Cyanamid Co., Bound Brook, N. J. Sponsors: M. J. Blackwood, S. J. Luscian.

Owen C. Rosenberger—Supt. of Cleaning & Dyeing, Nevens Co., Minneapolis, Minn. Sponsors: C. M. Robbins, L. R. Fox.

Joseph J. Seilus, Jr.—Foreman of Dyeing, Jefferies Dye Works, Chester, Pa. Sponsors: A. E. Raimo, T. H. Hart.

Maurice A. Stinnette—Chemist, Bibb Mfg. Co., Macon, Ga. Sponsors: C. Mueller, W. B. Griffin.

Stockton Graeme Turnbull, Jr.—Research Chemist, E. I. du Pont de Nemours & Co., Deepwater, N. J. Sponsors: C. A. Seibert, R. J. Thomas.

Junior

Joseph H. O'Donnell—Supt., Woonsocket Color & Chemical Co., Woonsocket, R. I. Sponsors: A. P. Morrone, A. K. Hobby.

Joseph Toledo—Textile Colorist, Teubal's Mills, Buenos Aires, Argentina. Sponsors: C. A. Seibert, C. A. Sylvester.

Student

Kirpal Singh—Lowell Textile Institute. Sponsor: E. E. Fickett.

Cesar Pacha Sumar—Lowell Textile Institute. Sponsor: E. E. Fickett.

Walter F. Loeb—Student, New York University. Sponsor: Prof. Chapman.

Associate

Jerome S. Friedman—Research Chemical Engr., Kamen Soap Products Co., Barberton, Ohio.

Constant Henri Minten—Representative, Interchemical Corp., Brussels, Belgium.
James B. O'Neal—Chief Dyer, Gann Hosiery Mills Co., Durham, N. C.
William J. Pauli — Manager, Quality Standards, Aldens, Inc., Chicago, Ill.
Richard G. Robertson—Chem. Engineer, Textile Aniline & Chem. Co., Lawrence, Mass.
Charles J. Schultheis—Purchasing Agent, Geigy Co., Inc., New York, N. Y.
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The Permanence of Flame-Proofed Fabrics

(Continued from Page 492)

In Table IX it is shown that increased $CaCO_3$ is without effect on the heated tensile strength. When weathered without water, extra $CaCO_3$ has no effect but with water present there is an added protective action (Table X); the $CaCO_3$ may well be neutralizing the effect of acid formation.

Table XI shows that the changing amount of $CaCO_3$ is not followed by any changes in acidity. The presence of $CaCO_3$ could not, of course, prevent formation of acidity within the cellulose micelle.

Flame and Char Resistance

The effects of heat, light and water on flame and char resistance are also important to the permanence of the treated fabric.

THE EFFECT OF HEAT as shown in Table XII, is to increase the char, presumably due to loss of chlorinated material by thermal breakdown, thus leaving less available for flame-proofing.

THE EFFECT OF WATER, Table XIII, is an increase in char. General experience has shown that in a poorly protected material, the flaming will also increase upon soaking.

THE EFFECT OF ARTIFICIAL WEATHERING is to cause an increase in char, especially when water is present, as shown in Table XIV. The Sunshine carbons show a much more severe effect on the upper rack samples, both with and without water, but this effect is by no means as great for the infrared or ultraviolet carbons.

The tests on the *specially-stabilized chlorinated paraffin* show greater char lengths than does the standard material, due to the sample having actually been "over-stabilized," thus making it less effective against flame.

When *extra* $CaCO_3$ was included, as shown in Table XV, the effect is to decrease the char lengths. The $CaCO_3$ presumably is modifying the rate of decomposition of the chlorinated paraffin.

Acknowledgments

Curves showing radiation characteristics of the carbons and light-spread in the Weathering Unit from National Carbon Company. Spectrographic curves of the colored samples by courtesy of A. P. Palmer of the American Cyanamid Co. Specially stabilized chlorinated paraffin and data on decomposition of chlorinated paraffin from Hercules Powder Company.

TABLE VI

TENSILE STRENGTH (LBS.)

SUNSHINE CARBONS

	Upper Rack				Lower Rack			
	No Water		With Water		No Water		With Water	
	Hours		Hours		Hours		Hours	
	0	100	0	100	0	100	0	100
Toluidine Red	234	197	234	123	234	213	234	175
Yellow Oxide	229	210	229	114	229	222	229	190
Red Oxide	229	198	229	121	229	210	229	193
Aluminum Powder	232	205	232	108	232	207	232	193
Lampblack	227	184	227	83	227	199	227	142
Ultramarine Blue	231	201	231	123	231	222	231	191

TABLE VII

TENSILE STRENGTH (LBS.)

SPECIALLY STABILIZED CHLORINATED PARAFFIN

	Sunshine Carbons			
	No Water or Filters Weatherometer Hrs.		With Water, No Filters Weatherometer Hrs.	
	0	100	0	100
Upper Rack	250	182	250	87
Lower Rack	250	200	250	196

TABLE VIII

pH

NO WATER OR FILTERS

	Greige Goods Weatherometer Hours					Coated Fabric Weatherometer Hours				
Upper Rack	0	25	50	75	100	0	25	50	75	100
Sunshine Carbons	7.0	7.0	6.6	6.2	6.0	6.8	6.8	6.6	6.6	6.5
Industrial U Carbons	7.0	7.0	6.6	6.3	6.0	6.8	6.8	6.8	6.6	6.4
Industrial E Carbons	7.0	7.0	6.6	6.4	6.0	6.8	6.8	6.6	6.2	5.8
Lower Rack										
Sunshine Carbons	7.0	7.0	6.6	6.3	6.0	6.8	6.8	6.7	6.7	6.6
Industrial U Carbons	7.0	7.0	6.6	6.4	6.1	6.8	6.8	6.8	6.6	6.4
Industrial E Carbons	7.0	7.0	6.6	5.5	6.1	6.8	6.8	6.8	6.2	6.0

NO FILTERS BUT WITH WATER

	Greige Goods Weatherometer Hours					Coated Fabric Weatherometer Hours				
Upper Rack	0	25	50	75	100	0	25	50	75	100
Sunshine Carbons	7.0	...	...	...	...	6.8	6.8	6.6	6.6	6.5
Industrial U Carbons	7.0	6.8	6.4	...	...	6.8	6.6	6.4	6.3	6.1
Industrial E Carbons	7.0	6.6	6.4	6.3	5.9	6.8	6.8	6.5	6.3	5.9
Lower Rack										
Sunshine Carbons	7.0	...	...	...	...	6.8	6.8	6.8	6.7	6.6
Industrial U Carbons	7.0	6.8	6.4	...	...	6.8	6.8	6.6	6.4	6.2
Industrial E Carbons	7.0	6.6	6.6	6.4	6.0	6.8	6.8	6.6	6.4	6.0

SOAK TESTS IN STILL WATER

Greige Goods Days in Water					Coated Fabric Days in Water				
0	2	4	6	14	0	2	4	6	14
7.0	7.0	6.9	6.9	6.6	6.8	6.8	6.8	6.8	6.7

HEAT TESTS

Greige Goods Days @ 105°C					Coated Fabric Days @ 105°C				
4	8	12	20	30	4	8	12	20	30
6.8	6.3	6.1	6.0	5.7	6.2	6.1	6.1	6.0	5.9

Greige Goods 6 Days @				Coated Fabric 6 Days @			
85°C	105°C	115°C	130°C	85°C	105°C	115°C	130°C
6.6	6.6	6.6	6.3	6.2	6.2	6.2	6.2

TABLE IX

TENSILE STRENGTH (LBS.)

% $CaCO_3$	Regular O. D. Days @ 105°C 0	6	12	Blue Days @ 105°C 0	6	12	White Days @ 105°C 0	6	12
0	241	220	218	236	219	214	217	215	214
6	240	223	219	243	217	213	227	208	213
8	232	223	217	238	226	219	228	220	213
12	240	221	216	242	234	225	240	223	213
16	233	217	213	239	216	212	...	...	...
20	234	227	220	242	232	224	...	...	...
24	...	...	...	243	223	217	...	...	...

TABLE X

TENSILE STRENGTH (LBS.)

SUNSHINE CARBONS

	Regular O. D.			Deck Blue			White		
		Weathered			Weathered			Weathered	
	Treated	No Water	With Water	Treated	No Water	With Water	Treated	No Water	With Water
Upper Rack									
% $CaCO_3$									
0	241	197	93	236	182	45	217	181	77
6	240	212	87	243	176	64	227	175	123
8	232	196	105	238	191	66	228	166	148
12	240	209	102	242	191	74	240	171	151
16	233	211	102	239	185	73	...	..	...
20	234	218	117	242	188	75	...	..	...
24	...	...	...	243	194	93	...	..	...
Lower Rack									
% $CaCO_3$									
0	241	200	155	236	176	111	217	191	155
6	240	235	166	243	175	142	227	185	181
8	232	228	170	238	179	151	228	179	213
12	240	236	155	242	187	163	240	181	222
16	233	225	187	239	166	159	...	...	...
20	234	238	173	242	173	172	...	...	...
24	...	...	...	243	177	196	...	...	...

TABLE XI

% $CaCO_3$	Regular O. D. Treated	Heated	Weathered	Deck Blue Treated	Heated	Weathered	White Treated	Heated	Weathered
0	6.9	6.1	6.0	7.2	6.4	6.2	7.1	6.4	6.0
6	6.9	6.1	5.8	7.2	6.4	6 1	7.1	6.4	6.1
8	6.9	6.1	5.9	7.2	6.4	6.2	7.1	6.4	6.1
12	6.9	6.1	5.8	7.2	6.4	6.3	7.1	6.4	6.2
16	6.9	6.1	5.9	7.2	6.4	6.2	...	...	...
20	6.9	6.1	6.1	7.2	6.4	6.1	...	..	...
24	...	...	...	7.2	6.4	6.2	...	..	...

TABLE XII

HEAT TESTS

CHAR LENGTH IN INCHES

	6 Days @				Days @ 105°C				
Room Temp.	85°C	105°C	115°C	130°C	4	8	12	20	30
1.23	1.71	2.16	1.89	2.08	2.14	2.19	2.19	2.27	2.33

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TABLE XIII

SOAK TESTS

CHAR LENGTH IN INCHES

Days in Water 0	2	4	6	14
1.23	1.83	1.95	1.98	2.27

TABLE XIV

CHAR LENGTH (INCHES)

	No Water—No Filters Weatherometer Hours 0	25	50	75	100	With Water—No Filters Weatherometer Hours 0	25	50	75	100
Upper Rack										
Sunshine Carbons	1.23	1.54	1.77	1.87	2.04	1.23	1.99	2.35	2.85	3.23
* Industrial U Carbons	1.23	1.87	2.10	2.20	2.31	1.23	1.98	2.35	2.54	3.37
* Industrial E Carbons	1.23	1.83	2.10	2.17	2.23	1.23	2.13	2.63	2.85	3.27
Lower Rack										
Sunshine Carbons	1.23	1.34	1.56	1.77	1.96	1.23	1.75	2.02	2.33	2.37
* Industrial U Carbons	1.23	1.85	2.06	2.16	2.27	1.23	1.88	2.04	2.19	3.32
* Industrial E Carbons	1.23	1.81	2.02	2.04	2.14	1.23	2.08	2.46	2.50	....

* Industrial U Carbons—Ultra-Violet
* Industrial E Carbons—Infra-Red

TABLE XV

CHAR LENGTH IN INCHES

$CaCO_3$ percentage	Olive Drab Coated	Soaked	Weathered Upper Rack No Water	With Water	Blue Coated	Soaked	Weathered Upper Rack No Water	With Water	White Coated	Soaked	Weathered Upper Rack No Water	With Water
0	1.77	2.31	2.10	2.88	2.21	2.60	2.52	3.22	1.87	2.15	1.73	2.44
6	1.35	2.04	1.85	2.88	1.48	2.42	1.95	2.53	1.79	2.15	1.48	2.31
8	1.33	2.04	1.52	2.25	1.43	2.13	1.94	2.50	1.67	2.00	1.50	2.10
12	1.02	1.82	1.50	1.81	1.33	1.98	1.83	2.38	1.56	1.83	1.41	2.03
16	1.02	1.85	1.50	1.88	1.33	1.98	1.83	2.28	.....	.....	.....	.....
20	.....	.....	1.48	1.37	1.35	1.83	1.75	2.28	.....	.....	.....	.....
24	.....	.....	.....	.....	1.02	1.83	1.54	2.03	.....	.....	.....	.....

• PATENT DIGEST •

Paul Wengraf

Flameproofing Acetate Rayon G, 2, 03

British Patent 575,903 (British Celanese, March 11, 1946)

The invention relates to a flameproofing treatment of textiles, particularly of cellulose acetate. Textile materials are impregnated with a solution of urea and an ammonium salt in a solvent (water or alcohol). Ammonium-bromide, -chloride, -borate and di-ammoniumphospate are especially recommended ammonium salts. Moreover a penetrant such as thiocyanate may be added. Di-ammonium methylphosphate gives a better and softer hand. Samples placed in the luminous flame of a Bunsen burner do not ignite but only melt and char without dripping.

Older Literature: U. S. Patent 2,262,634 (Monsanto Chem. Co.) alkylammoniumphosphates (diethylammoniumphosphate) as fireproofing agents. U. S. Patent 2,212,-152 (du Pont) Sulfamic acid plus urea; U. S. Patent 2,005,619 (du Pont) mixed alkylphosphates.

"Cold Soap" for Finishing Purposes G, 1

British Patent 575,949 (Elliott and Blackman, March 12, 1946)

A practical formula for manufacturing "cold soap," widely used in finishing plants, also in rinsing operations is given: into a crutching pan 459.5 lbs palm kernel oil are run; 437.5 lbs. of NaOH 32°Bé are added at 86-90°F. On the other hand, 204 lbs. rosin-oil or grease mixture 40:60 are treated with 12½ lbs. KOH (28°Bé) and added to the mass described above. At this stage there is not enough alkali for saponification. The mass solidifies but becomes quickly liquid again after some minutes. Thereupon the alkali, calculated for saponifying the whole amount of fats and rosins is added. The soaps are said to remain homogenous in storage.

Rayon Material—Formaldehyde Treatment for Increasing Water Resistance G, 2, 02

British Patent 575,964 (Courtaulds Lim., Whittacker et al., March 13, 1946)

According to this invention, regenerated cellulose fibers, particularly staple fibers (registered mark "Fibro") and products made therefrom are treated with an aqueous solution of formaldehyde, an organic acid (lactic acid) and an alkali metal—or magnesium sulfate or magnesium chloride. After hydroextracting the material and drying it at a low temperature it is heated at 135°C. to effect a reaction between cellulose and formaldehyde. It is stated that British Patent 447,651 proposed already a treatment with aldehyde and a soluble soap. But it has been found by the inventors that fibers or textile material in general treated according to the present invention are much less water adsorbent than other known products of the formyl cellulose type.

Some earlier work done in this field: a formaldehyde cellulose treatment, generally denoted as "sthenosage" has, amongst others, been recommended for creaseproofing in former patents granted to Heberlein Co. U. S. Patent 2,233,402 (North Amer. Rayon) proposes a treatment with formaldehyde plus halogen fatty acids. Similar also: British Patent 547,-846: formaldehyde combined with esterifying or etherifying agent, changing cellulose in its corresponding derivative; British Patent 565,337 (Heberlein): organic colloids like starch, being very similar in its reactions to cellulose, reacted with formaldehyde to fix calendering effects, and so on.

Crepe Effects on Mixed Nylon —Cellulose Fabrics F, 4, 01

British Patent 576,050 (British Nylon Spinners, Jackson, March 15, 1946)

It is known to produce crepe effects in pure nylon or mixed nylon fabrics by shrinking some of the nylon yarns by means of hot water, steam or phenol. According to the present invention and in contradistinction to the known methods the *cellulose portion* of a cellulose-nylon-fabric is shrunk. It has been observed that nylon yarns are not affected by a treatment with 10-20 per cent NaOH at 20°C. After immersion for five minutes the cellulosic yarn shrinks at a maximum of 20 per cent. The fabric is acidulated thereafter and rinsed. Other shrinking agents which can be applied for cellulose-mixed fabrics are potassium hydroxide and zinc chloride. In making crepe from acetate cellulose- and nylon-mixed fabrics *acetone* has to be used instead of caustic, etc., as a shrinking agent.

Preventing the Formation of Static Electricity—Starch Compositions G, 1

British Patent 576,365 (du Pont, April 1, 1946)

Compositions, preventing the accumulation of static electricity, especially useful in treating cellulose acetate, polyvinyl products and nylon, consist of aqueous solutions of starch (0.5-3 per cent) combined with an electrolyte such as potassium acetate. This solution is applied in a thin layer to the textile material. A wetting agent may or may not be added. The amount of electrolyte is so small that the apparatus (spinning, finishing equipment, etc.) cannot be damaged. The corresponding Canadian Patent has the number 430,783. A great series of antistatics have already been proposed, for instance, alkylolamine salts, such as lactates of triethanolamine (British Patent 430,221, British Celan.); mineral oil emulsions (British Patent 563,725, British Nylon Spinners); organic phosphorus derivatives (U. S. Patent 2,279,501/2 and U. S. Patent 2,318,296 Eastman-Kodak).

Direct Dyeings—Increasing the Fastness to Light C, 4, 01

British Patent 576,562 (Geigy A. G., April 10, 1946)

The fastness properties of direct dyeings are improved by an after treatment with special water-soluble and acid-soluble resins. These resins are prepared from dicyandiamide, urea and hydrochloric acid, the mixture being made by refluxing dicyandiamide urea and hydrochloric acid. This mixture is treated with formaldehyde and thereupon with glacial acetic acid. The resins can either be isolated or used in form of the solution obtained by the reaction above. The inventor is aware that condensates with aminotriazine (such as melamine) plus aldehydes improve the fastness of direct dyes. It has been observed, however, that the new products have the additional advantage not to influence the fastness to light which is often deteriorated in using other aftertreating agents. Furthermore, the aftertreated goods have not to be heated as its is necessary in order to effect a further condensation within the fibers.

Some references published in recent times concerning aftertreating direct dyeings: U. S. Patent 2,214,067 (Gen. Aniline): aniline plus formaldehyde and ammoniumchloride. British Patent 522,539

(I. G.): mixtures of polyethylene polyamines and dicyandiamide; Swiss Patent 208,535 (Geigy): condensates of polyamines with aldehydes.

Acryl Polymer Fibers—Dyeing and Printing C, 4, 07

British Patent 576,793 (Imp. Chem. Ind., Gates, April 18, 1946)

As stated in the present invention, attempts to surface dye the acrylpolymer fibers have not been successful up to now. It was generally proposed to add a solvent to the dye bath; in this case attacks of the surface of the polymer could not always be avoided. It has been found that satisfactory results can be obtained by using an aqueous dyebath, containing a water dispersible acetate dyestuff (trade names Dispersol-, Duranol- or Solacet-dyestuffs) and between 0.1-5 per cent by weight of an amine, an amide, a phenol, an aromatic acid or a cyclic alcohol or ketone. Examples for the last mentioned substances are phenol, naphthol, benzoic acid and quinoline. A special method protected by this patent consists of producing resists by stencilling fabrics, composed from acrylate fibers, with a polystyrene emulsion. The latter is not dyed in a dyebath, consisting of Duranol-dyes, to which phenol has been added.

Some references relating to dyeing polymers: U. S. Patent 2,394,688/89 (Am. Viscose): vinyl-polymerisate-fibers are dyed with suspension dyestuffs, adding small amounts of organic water-insoluble compounds such as naphthols, diphenyls, aromatic aldehydes. A general survey, written by Paul J. Choquette (AMERICAN DYESTUFF REPORTER, May 12, 1945, p. P211) should be consulted.

Waterproofing Finish—Benzoic Acid Substitute G, 2, 02

U. S. Patent 2,398,272 *(Monsanto Chemical Co., Aelony, April 9, 1946)*

Textile products are treated with substitution products of benzoic acid. The benzoic acid is substituted by a higher fatty acid amide which is linked to the benzene nucleus by a sulfogroup. An example is the dodecyl- sulfamyl-benzoic acid. This compound, being insoluble in water, is applied to a fabric in form of an emulsion, dried and aftertreated with an aluminum salt solution, for instance with a 5 per cent solution of aluminum acetate. Thereupon the fabrics are dried again and heated to 125-150°C. (baked). They become permanently waterproof as shown by the Spray- and the Hydrostatic-Test according to AMERICAN DYESTUFF REPORTER, 1939, p. 285, and to the Yearbook of the Amer. Assn. of Text. Chem. & Col., 1940, p. 223-224.

References: German Patent 715,318 recommends a treatment with aminocarboxylic acids and an aftertreatment with aluminum salts. British Patent 553,681, Geigy, describes a waterproofing process with quaternary ammonium compounds, containing a substituted benzene nucleus. Here no aftertreatment with aluminum salts is proposed.

Waterproofing Textiles—Increasing the Stability of Emulsions G, 2, 02

U. S. Patent 2,402,351 (du Pont, Smith-Mitchell, June 18, 1946)

The present specification states that the stability of water-repellent finishes, composed from (1) waxes or oily substances, (2) metal salts such as Al.- or Zirconium-salts and (3) protective colloids such as glue or gelatine is not always satisfactory. The reason for this disadvantage is seen therein that aluminum salts have a degrading action on glue or gelatine and that by preparing these emulsions at higher temperatures or by storing them the protective action of the glue is decreased or entirely destroyed. It has been found that small amounts of di-naphtylmethane- di-sulfonic acid (later on named simply "DMDS"), having tanning properties help to stabilize these emulsions. The procedure consists of adding the compound DMDS to the glue and to work up this mixture as usual with wax and aluminum salts (or generally products belonging to groups 1 or 2) in a homogenizing device. The explanation which can possibly be given has, (according to the specification, to be seen therein, that the DMDS stabilizes the glue particles by a slight and superficial tanning action, making it less responsive to the action of metal salts.

The patent itself quotes as former references: the U. S. Patents 2,015,864 and 2,015,865, 2,111,402 and 2,187,858 (Müller) wherein the manufacture of emulsions, as mentioned above, is described. These patents protect water repellent finishes of the "Impregnole"-type.

Zein for Finishing Textiles—Aldehyde—Condensate G, 2, 01

U. S. Patent 2,402,128 (Staley Manuf. Co., Amer. Maize Prod Co., C. D. Evans, as inventor, June 18, 1946)

The finishing and fiber producing industry are already interested since some years in a way of using zein, the alcohol soluble and water insoluble maize protein. The present invention discloses that the stability of the alcoholic zein solutions depends on many factors and is uncertain therefore. Aldehydes have the property to modify zein by rendering it insoluble in alcohol. An insoluble chemical compound is formed from zein and aldehydes but on *longer exposure*, for instance to high vacuum, the condensate is split again. The inventor formulates these conditions by disclosing that "the aldehyde used for the reaction mass becomes partly associated with the zein and partly acts as a solvent compound." The proportions of such a solution in which the aldehyde-zein-combination is maintained in a dispersed state are, for instance: 20 g. zein, 50 ml. absolute alcohol and 20 g. formaldehyde 37 per cent (the solution gels when less formaldehyde is used). It seems that a permanent finish can be obtained in this way, particularly after baking it at about 120°C. The reaction of aldehyde and zein is complete when the solution leaves a water-resistant film after drying.

Some references in this field: U. S. Patent 2,397,919 (Eastman-Kodak): zein is dispersed by aid of thiocyanates whereby non-gelling solutions are obtained; U. S. Patent 2,360,081 (Corn Prod. Refin.): alcoholic zein solutions are used for impregnating textiles in the following way: they are diluted with water while adding at the same time a dispersing agent such as a higher fatty alcohol sulfate; U. S. Patent 2,322,486 (Corn Prod. Refin.): films are prepared from mixtures of zein and formaldehyde to which an organic acid, for example lactic acid, and ammonia are added as curing catalysts.

Wool—Regain of Moisture G, 5

U. S. Patent 2,401,926/27 (Parks & Woolson Machine Co., Hadley, June 11, 194[illegible]

The patent refers to a method and an apparatus for the regain of moisture in fibrous materials, especially intended for the treatment of wool. When wool stock is dried the moisture is often driven off to such a degree that about 14-15 per cent of the natural water content are lost. There exists up to now two methods for regaining moisture: spraying the material with water or steam or storing it in a damp room, a cellar or the like. Spraying is said to give no uniform results and storing requires too much work and time. The inventor found that very satisfactory results are obtained by steaming first the goods and thereupon *deep-freezing* them at about 120°F. A simple apparatus for carrying out this method is shown and patented: Fig. 1 illustrates the constru[illegible]

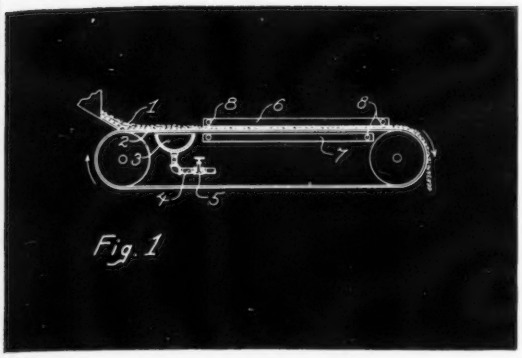

Fig. 1

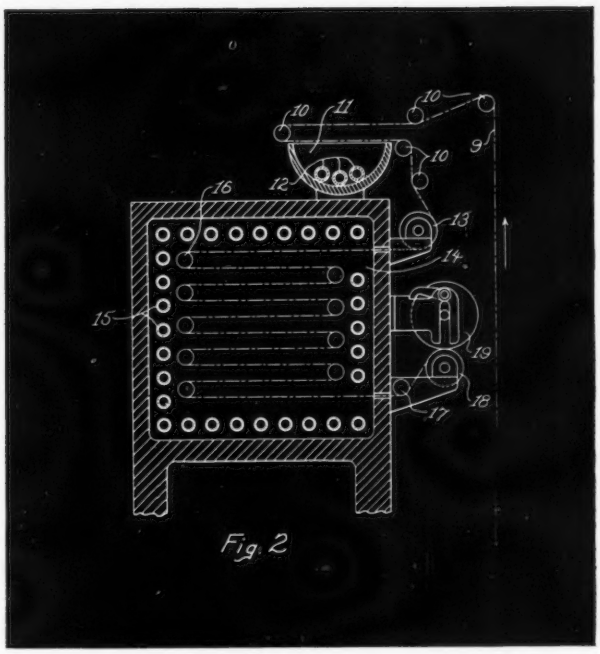

Fig. 2

tion for loose material; Fig. 2 that for fabrics. According to Fig. 1 the loose wool (1) is received by a conveyor (2) which passes over a steam chamber (3) and immediately thereafter between refrigerating plates (6) which are cooled by any refrigerant, introduced by pipes (8). Fig. 2 shows the fabric, coming from roller (9) and passing over a steam chest (11) whereupon it is led into a refrigerator (14), cooled down by pipes (15). The idea is in both cases to *chill quickly* the material and to fix thereby (within a period of about 30 seconds) the moisture, applied by the spraying operation. It is probable that the humidity remains in equal distribution under these working conditions because no irregular evaporation can occur.

Reference regarding the treatment of wool at low temperatures: Some years ago several patents were published comprising a wool treatment with lower temperatures but *to another* purpose. The Frosted Wool Company and the Fitger California Company in Los Angeles obtained British Patents 395,471, 398,683 and 423,002 proposing a treatment of wool at very low temperatures, although not as low as mentioned in the present patent. This treatment was said to have the result of freezing out the fats, contained in natural wool and to remove these fats by a subsequent beating and brushing operation. A similar suggestion was published in German Patent 602,056 (Golwig): the wool had to be placed in large jute-bags and subjected to a cleaning process by dipping the bags in chilled solvents U. S. Patents 2,015,893/94 (Frosted Wool, Greenleaf) described an improved method of the wool-freezing treatment: temperatures are limited to 0°F. and the time of passing the wool through the freezing chambers must not exceed 20 minutes. The principle has to be seen therein that only water, contained in the wool, is frozen together with the fats without damaging the wool substance itself.

Correction

In the abstract entitled "Treating Starch for Obtaining Stable Thickeners, Sizing Pastes, Etc." which appears on page 440 of our September 9th issue, the patent number is given as 2,402,820. The correct number is 2,400,820.

TRADE NOTES • NEW PRODUCTS

• Carothers Research Laboratory

The nylon research laboratory at the du Pont Company's Experimental Station in Wilmington was dedicated on September 17th as "The Carothers Research Laboratory" in honor of the late Wallace Hume Carothers who headed the team of scientists that first synthesized nylon.

Jane Carothers, eight-year-old daughter of the distinguished scientist, unveiled a bronze plaque that commemorates "the classical researches" of her father "on the structure of polymers, the mechanism of polymerization, and the invention of nylon."

Tribute to Dr. Carothers, who died in 1937 at the age of 41, was paid by Dr. E. K. Bolton, director of the company's Chemical Department; B. M. May, general manager of the Rayon Department, and Dr. G. P. Hoff, director of the Nylon Research Section, at a simple noon-day ceremony.

Several members of the first research team to work with Dr. Carothers at Wilmington, the original organization of the Nylon Division which launched the new synthetic fiber in 1939, top officials of the du Pont Company, Mrs. Helen S. Carothers, widow of the scientist, and his parents, Mr. and Mrs. Ira Hume Carothers of Des Moines, Iowa, were luncheon guests at the du Pont Country Club following the ceremony.

Dr. E. B. Benger, manager of the Rayon Technical Division, who now directs du Pont's researches on synthetic fibers, presented a gold miniature of the commemorative plaque to Jane Carothers at the luncheon.

It was at the Experimental Station that the research team headed by Dr. Carothers first synthesized the superpolymers that came to be known as nylon and were destined to play an important role in both the peacetime economy and military security of the nation.

In addition to his work with nylon, Dr. Carothers was associated with the development of neoprene, the first general-purpose synthetic rubber to be produced commercially.

The Carothers Research Laboratory was opened as a pilot plant in July, 1938, and

that year began the first quantity production of bristles and textile yarn from a polyamide then known only by the number "66."

With the coining of the name "nylon" in October, 1938, the laboratory was designated as the nylon pilot plant and on January 1, 1940, became the nylon research laboratory. A wing was added to the building in October, 1941, and ground was broken for a second addition two weeks ago.

• Celebrate 50th Anniversary

Mr. and Mrs. A. G. Bruinier, Sr., celebrated their fiftieth wedding anniversary on August 30th, at which time Mr. Bruinier also observed his seventy-seventh birthday. The photograph below was taken on this occasion.

Mr. and Mrs. A. G. Bruinier, Sr.

Mr. Bruinier was a well-known figure in the dyestuff industry until his retirement in June, 1944. He was born in Amsterdam, Holland, and became associated in 1886 with the dyestuffs manufacturing firm of Kalle & Company in Germany and came to the United States in 1890 with the company's American branch. He joined the Newport Chemical Company, Passaic, N. J., in 1924 and when that firm was purchased by the du Pont Company in 1931, Mr. Bruinier became Assistant Director of Sales of the Dyestuffs Division. He later became Director of Sales of the Fine Chemicals Division. At the time of his retirement he was acting in an advisory capacity to the Fine Chemicals Division.

Mr. Bruinier now resides in Riverhead, Long Island, and is in good health and spirits, enjoying his retirement, but misses his old friends in the industry.

HERRING WINSHIP, JR., who has rejoined Westvaco Chlorine Products Corporation as Special Representative attached to the Greenville, S. C. office, after discharge as a Captain, Ordnance Department, A.U.S. He served in the Armed Forces for over five years, principally in the Pacific Theatre.

Prior to joining the Army and soon after graduating in Chemical Engineering at Georgia Tech, Mr. Winship was a member of Westvaco Chlorine Products' New York headquarters Technical Service Staff.

• Manager, Market Research

The appointment of George T. Collins as Manager of the Market Research Department of Pennsylvania Salt Manufacturing Company has been announced by Richard L. Davies, assistant to the president. Mr. Collins, formerly a chemical engineer in the department, was assistant manager of Market Research when he was promoted. He joined the Pennsalt organization October 15, 1943.

• Detroit Manager, Carbide & Carbon

Richard M. Joslin was recently appointed manager of the Detroit Office of Carbide and Carbon Chemicals Corporation and took over his new post on September 3, according to an announcement by Company officials. Mr. Joslin has been with the Corporation since 1935. He served as a technical representative in the Philadelphia area and, for the past two years, has been manager of the Charlotte, North Carolina office. He will replace George D. Garrett, Jr., Detroit district manager since 1940, who is joining Carbide and Carbon Chemicals Limited, in Toronto, Canada.

• Additions to Lowell Faculty

Kenneth R. Fox, President of Lowell Textile Institute, has announced 9 new appointments to the faculty to assist in handling the record number of students

FULLER D. BAIRD, who has been promoted to Sales Promotion Manager, Strong Cobb Division, N. Y., Standard Brands Incorporated. He was formerly Sales Service Manager of the Agricultural Department, Strong Cobb Division, where for three years he has been actively engaged in the sales and merchandising of Fleischmann's Irradiated Dry Yeast and other products handled by this department.

Mr. Baird's new duties will include work with all the departments of the Strong Cobb Division, N. Y., and the products which are developed for and sold to the agricultural, textile, and the food and pharmaceutical industries.

enrolled at the institute. Latest registration figures indicate close to 500 students, over 150 above the previous peak.

Maurice E. Gelinas of 23 Dane Street, Lowell, was appointed instructor in the Engineering Department. Mr. Gelinas received his S.B. in Electrical Engineering from M.I.T. and an A.M. in Mathematics from Harvard University. He taught for 2 years at the University of New Hampshire and 24 years at Hibbing Junior College, Minnesota, where his subjects included mechanical drawing and descriptive geometry. In addition to his teaching experience he has had several years' experience as a draftsman and descriptive geometry expert with several firms including the General Electric Company at Lynn. Mr. Gelinas' subjects at the Institute will be Mechanical Drawing and related courses.

Also appointed to the Engineering Department was Isaac Chase, Jr. of Portsmouth, Rhode Island, who will give instruction in Physics. Mr. Chase is a graduate of Rhode Island State College where he received his degree in Civil Engineering. He has also studied at the Rhode Island College of Education. Following his graduation he had 5 years' experience with the U. S. Army Engineer Corps doing flood control work in New England. During World War II he served 4 years as an officer with the Civil Engineering Corps of the Navy.

Martin J. Lydon of 28 Ruth Street, Lowell, was appointed an instructor in the English Department, where, in addition

WILLIAM H. KIEFFER, who has been named manager of the Calco Chemical Division, North American Cyanamid Limited, with offices and warehouses at Montreal and Toronto. He will direct all sales and administrative functions of the Calco Division, which has been formed to distribute dyestuffs, chemicals and intermediates to the textile, leather, paper and plastic industries; this division will also handle bulk chemicals for the pharmaceutical trade, textile resin finishes, and pigments.

Mr. Kieffer, a native of Easton, Pennsylvania, attended the Easton Public Schools and later entered Lafayette University, from which he received his degree of Bachelor of Science in Chemical Engineering. In 1936 Mr. Kieffer joined the Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J., and for the last few years has been associated with the sales and product development division of the Calco organization. During the war he cooperated with the United States Army and Navy Department in the development of the life saver dye marker and shark repellent packet which became standard equipment for the Air Forces.

M. LEONARD SLESINGER, who will represent the Textile Chemical Division of Dexter Chemical Corporation in the two Carolinas. He will be at home in each state as he was born in Bishopville, South Carolina and received his technical education in North Carolina. He graduated from the North Carolina State College with honors, having majored in Textile Chemistry and Dyeing.

He entered the textile industry as a member of the research staff of the North American Rayon Corporation but was soon called into military service. He was commissioned as a second lieutenant and had attained the rank of lieutenant-colonel when he left the service. Much of his time in the army was spent in China where he was a staff officer and aided in training Chinese troops in the field.

Since leaving the army he has been with the United Merchants Sales Corporation.

Mr. Slesinger is doing some intensive study and research at the Dexter headquarters, 819 Edgewater Road in New York, before leaving for his new territory.

M. H. METTEE III, formerly a New England sales representative of Calco Chemical Division of American Cyanamid Company, who has been transferred to plastic sales for the Dyestuff Department.

Mr. Mettee attended Johns Hopkins University, graduating in June 1932 with the degree of Bachelor of Science. He came to the Calco organization as a member of the first student training class and in October 1934 was transferred to the Boston Office of the company as a sales representative, calling on the New England woolen and worsted trade.

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to English, he will give instruction in several new courses in the humanities, now being introduced to broaden the curriculum. Mr. Lydon received his A. B. from Harvard University *cum laude* and an A.M. degree from the same University. He was the recipient of numerous prizes and scholarships while at Harvard and since graduation has taught English, Sociology and Economics at Belmont, Billerica and most recently at Palm Beach Junior College.

Walter J. Lisien of 28 South Whipple Street, Lowell, was appointed to the Chemistry Department where he will instruct in Inorganic Chemistry. Mr. Lisien is a graduate of Lowell High School where he was a member of the National Honor Society and from the Lowell Textile Institute where he received his degree in chemistry. He was a member of the honorary scholastic fraternity at Textile and the winner of several prizes and awards. During World War II Mr. Lisien was associated with the Manhattan project, which developed the Atomic Bomb, first at Oak Ridge, Tennessee and later at the University of Chicago. Previously under the Army Training Program he completed the equivalent of 2 years work at Virginia Polytechnic Institute.

Also appointed instructor in the Chemistry Department was Ernest P. James of 39 High Street. Mr. James is a graduate of Haverhill High School and the Lowell Textile Institute where he received his degree in Chemistry. During the War he studied Meteorology at M.I.T. and was commissioned in the Navy as an Aerological Officer. He served over 3 years, half of it in the Pacific Area. He will give instruction in Quantitative Analysis.

Edward L. Golec of Lowell was appointed instructor in the Design and Weaving Department. Mr. Golec is a graduate of Lowell High School and of the Design Course at Lowell Textile Institute. He has had considerable experience in the textile industry working for Pacific Mills, Plymouth Mills, Labro Mills, and as designer for Manhattan Shirt Company and Loomerica, Inc. He has also taught cotton design evenings at Lowell Textile Institute. During the War he served as 2nd Lieutenant in the Army Engineers, spending 15 months in Europe. After VE Day he served in the Philippines and finally Japan.

Roger B. Oliver of Tewksbury was made an instructor in the Cotton Manufacturing Course. Mr. Oliver is a graduate of Lowell High School and Lowell Textile Institute. Following his graduation he was employed by the Southwell Wool Combing Company for 5 years and then by Pacific Mills. During the war he worked in Radar with the U. S. Army and spent a year teaching Radar in the Air Force Technical School.

Robert M. Kennedy of Dunstable was appointed instructor in the Engineering Department where he will give instruction in Mechanical Drawing. Mr. Kennedy is a graduate of Lowell Textile Institute and following graduation worked with the United Elastic Corporation, Globe Woven Belting Company, Limerick Yarn Mills, and U. S. Marine Corps, Depot of Supplies. During the War he served as a 1st Lieutenant in the Marines.

Andrew A. Ouellette of Nashua was appointed instructor in the Engineering Department where he will give instruction in Mathematics. He attended Bates College and is a graduate of Brown University where he received his degree in Engineering. During the War he served in the Navy as an Ensign.

HORACE D. ACASTER, who has been appointed to the newly created office of Manager of Industrial Relations of Calco Chemical Division, American Cyanamid Company.

Mr. Acaster studied chemistry at Cooper Union, and business administration at Rutgers University. He was associated for some years with the former E. C. Klipstein & Company, South Charleston, West Virginia, and later as plant manager with the Atlantic Dyestuff Company. He came to Calco in 1926 as a production supervisor.

Mr. Acaster has undertaken several important assignments for the American Cyanamid Company and its subsidiaries. He spent several years in South Africa, constructing and operating a plant for the American Cyanamid Company. He was made Project Engineer of the Chemical Construction Company, an American Cyanamid subsidiary, after his return to this country in 1942, and since 1943 has been plant manager of the Stamford Laboratories.

S. C. Moody, Vice President and General Manager of Calco, in announcing Mr. Acaster's appointment, stated: "The rapid expansion of plant facilities has created for us added social responsibilities to the employees and to the communities in which our plants are located. Maintenance of sound human relations within our organization is in the public interest and if we are to keep abreast of the new and far-reaching world developments in the chemical industry, our employees must have our assistance in the advancement of their technical skills. Mr. Acaster is eminently qualified by experience to undertake this vitally important task."

• Joins ASA

Frank Mac Millen, New York newspaper man, has joined the staff of the American Standards Association as Director of Information.

Mr. Mac Millen, who resigned from the staff of the *New York Times* to take his present position, previously was connected for ten years with the Associated Press as Financial News Editor, in which capacity he first came in contact with the work of the Association.

He will supervise an expanded educational program, designed to inform the public and interested industrial and technical groups concerning the activities of the Association. He will be in charge of all publicity for general newspapers, trade papers, and the radio.

GEORGE A. JONIC, who has been appointed a sales representative in the Metropolitan District Sales Department of Calco Chemical Division, American Cyanamid Company, is calling upon the textile trade in the Paterson-Passaic Territory.

Mr. Jonic graduated from Carnegie Institute of Technology in 1937 with a B.S. degree in Chemical Engineering and came to Calco as a student trainee. After spending a period in the various manufacturing departments and laboratories of the Company, Mr. Jonic was transferred to the Chicago Sales Office. He served with the 112th Engineer Combat Battalion and later with the Engineer Section of First Army Headquarters, in the European sector including England, France, Belgium and Germany. He accompanied the assault troops on "D" Day, with the mission of clearing beaches and roads of mines.

• Amalgamated Chemical Folder

Textile chemicals made by Amalgamated Chemical Corporation are described in a 12-page folder. It discusses uses of and results achieved with detergents, water repellent finishes, hosiery finishes, wetting agents and penetrants, softeners and soaps. For a copy of this folder address Amalgamated Chemical Corporation, Ontario and Rorer Streets, Philadelphia 34, Pa.

• Monsanto Promotion

The promotion of Howard K. Nason to Associate Director of the Central Research Department of Monsanto Chemical Company has been announced by Dr. Carroll A. Hochwalt, Central Research Director for the company.

Nason, a native of Kansas City, Mo., has been associated with Monsanto since 1936, and since 1944 has been Director of Development of the Central Research Department in Dayton. He served as Research Chemist in the St. Louis, Mo., laboratories of the company from 1936 to 1939, and as Assistant Director of Research of Monsanto's Plastics Division in Springfield, Mass., from 1939 to 1944. He is well known in scientific circles for his work on plastics, germicides, fungicides and industrial preservatives.

OBITUARY

JOHN G. ECHMALIAN

JOHN G. ECHMALIAN, director of the Howard Cheney Technical School at Manchester, Conn., died at his home in Manchester on September 25th.

Mr. Echmalian was born in Armenia but spent most of his youth in Lowell, Mass., where he attended high school and was graduated in 1916 from Lowell Textile Institute. A veteran of the Army's Chemical Warfare Service in the first World War, he went to Manchester in 1920 as an instructor in textile theory at the trade school. He also worked for a time in the personnel department of Cheney Brothers and had done work for other textile concerns.

At his death he was preparing a course to be given at the Bigelow Sanford Carpet Company in Thompsonville, Conn.

HUGH F. A. MORAN

HUGH F. A. MORAN, salesman of the Boston branch of the General Dyestuff Corporation of New York, N. Y., died at the Peter Bent Brigham Hospital, Boston, Mass., on September 24, 1946.

He joined the old Farbenfabriken of Elberfeld Company in Boston on September 18, 1906, immediately after graduating from the Boston English High School. For several years he filled different positions in the Order and Shipping Department, and in 1915 began his career as a salesman, visiting the tanners. He was one of the best informed dyestuff salesmen in the leather trade, universally liked and respected because of his continued effort to be of service to his customers. He leaves a host of friends, both among the trade and his business associates.

RALPH B. McKINNEY

RALPH B. McKINNEY, 58, general manager of the paper makers chemical department and member of the board of directors of Hercules Powder Company, died September 21 at the Delaware Hospital, Wilmington, Del., after two weeks' illness.

A native of Wilmington, Mr. McKinney had been associated with Hercules since its organization in 1913 when he became a member of the company's purchasing unit. In 1922, he was made manager of the purchasing department.

Mr. McKinney was appointed assistant to the general manager of the explosive department in 1929. Three years later, he again was named director of purchases.

In 1937, he transferred to the paper makers chemical department, and in 19[illegible] was made assistant general manager. One year later, he advanced to general manager of the department.

Mr. McKinney was elected a member of the board of directors in January, 19[illegible]

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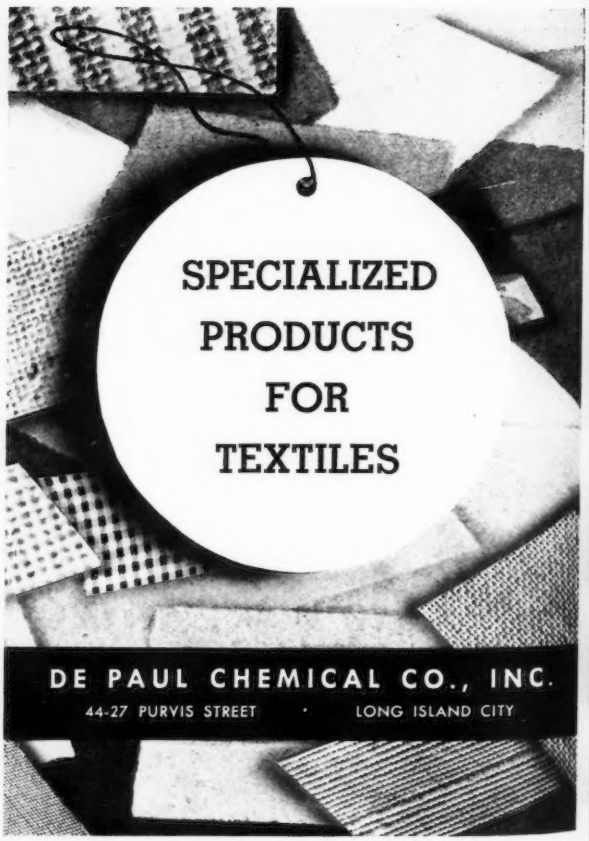

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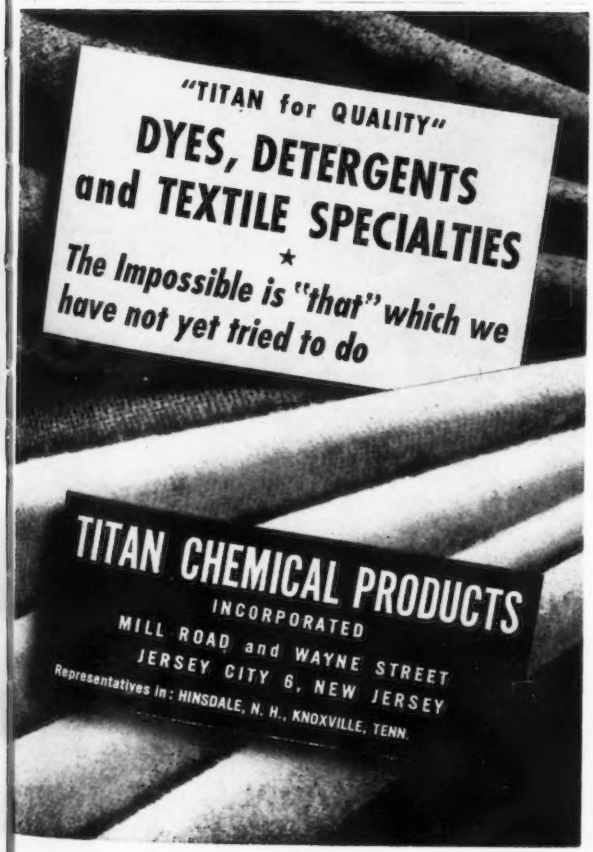
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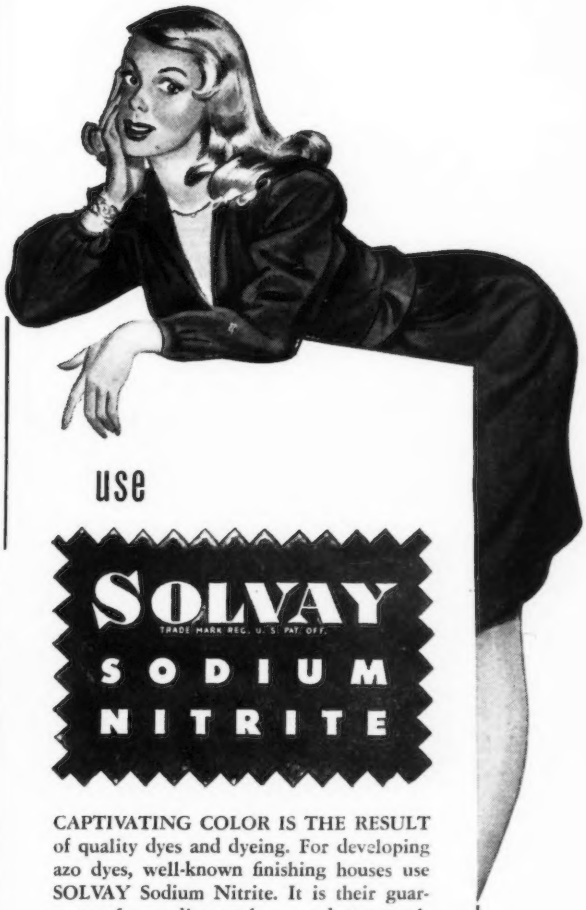

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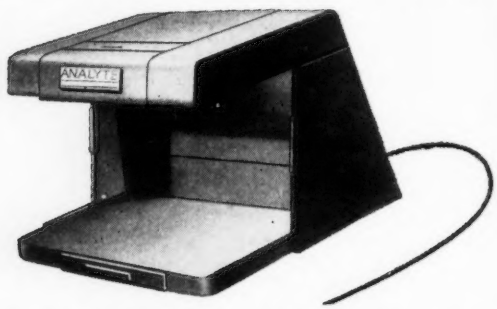

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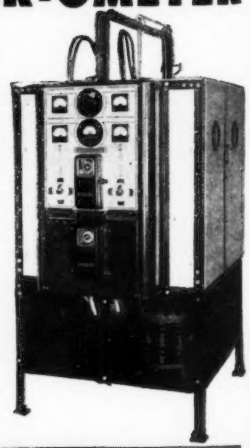

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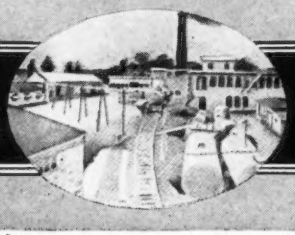

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RAYON: In boiling off, Pine Solvent XX rapidly emulsifies gelatinous materials . . . is safe for the most delicate fabrics. Used in dyeing, it makes the fabrics wet out and sink quickly.

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• CLASSIFIED ADVERTISEMENTS •

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CONFIDENTIAL EMPLOYMENT SERVICE — For Dyers, Chemists, Colorists, Mill Managers, Superintendents and others seeking positions and for employers seeking high grade men. Charles P. Raymond Service, Inc., 294 Washington St., Boston, Mass. Over 45 years in business.

WE BUY YOUR EXCESS INVENTORY OF DYESTUFFS AND INTERMEDIATES. WRITE BOX 128.

POSITION WANTED: Dyer, with 25 years experience Wool, Cotton, Rayon, skeins, pieces and raw stock; also all kinds of men's and ladies' hosiery including Nylon. Familiar with all types of dyeing machinery and has experience installing new dyehouses. Write Box 132.

WANTED: Colorist, in laboratory of plant manufacturing dyestuffs. Location Staten Island, N. Y. In letter of application please indicate age, experience in detail and education background. Write Box 133.

WANTED: All types dyestuffs, spot and future shipments, including Direct Blacks, Direct Greens, Congo Red, Sulphur Black, Sulphur Blue, Malachite Green, Brilliant Red 12B, Methyl Violet, etc. Write Box 134.

WANTED: TEXTILE CHEMISTS. Recent graduates of Textile School. Will be trained to call on Textile Mills to demonstrate Textile Processes. Company located in Eastern New York. State full particulars, experience, age and salary desired. Write Box 135.

WANTED: Young Textile Chemist with laboratory experience in matching colors on Cotton, Rayon and Woolen Yarns. For research development of new pressure dyeing machines. Some sales ability desired. Excellent opportunity with nationally known firm. State qualifications, background, age, salary desired. Write Box 136.

POSITION WANTED: Are you looking for an experienced plant manager or man to head up your development program? I am married, a graduate of Lowell Textile Institute, and have had nine years experience with one of the largest finishing Companies as Chemist, Superintendent and Manager; also three years experience in technical service, application development, market research and promotion of textile resins and finishes for one of the larger Chemical Manufacturers. Prefer N.E. or Metropolitan area. Write Box 137.

WANTED

By Large Machinery Exporter. Dyehouse Machinery and Auxiliary Equipment. Also interested in Complete Units.

Write Box 138.

Have you ordered a Binder for your Reporter copies?

Maroon leatherette, gold lettered, large enough to hold twenty-six issues, only $2.50 post-paid.

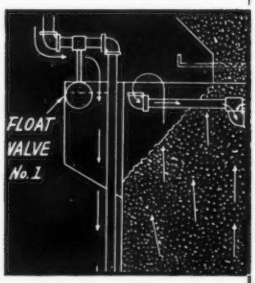
Please send check with order to:

AMERICAN DYESTUFF REPORTER
ONE MADISON AVENUE
New York 10, N. Y.

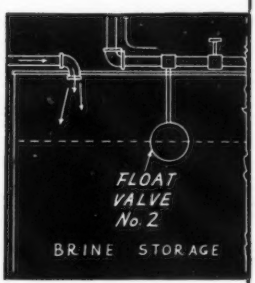
MYLES Brine Equipment Dissolves then Filters!

Once you have used brine that is double filtered, the Myles way, you'll never tolerate cloudy, impure brine again. The crystal-clear brine you get from Myles' exclusive "Double Filtration" gives you brighter, more level dyeings every time — and often costs less than brine from other equipment. You'll find many other attractive features in the Myles Double Filtration Brine Equipment, too:

- Myles original and patented DUAL CONTROLS regulate water intake and brine supply — insuring a thoroughly saturated brine.
- Myles is COMPLETELY AUTOMATIC.
- Myles equipment is non-corrosive made of Stainless Steel, Nickel or Monel with all Brass or Bronze fixtures.
- Uses Myles Rock Salt — eliminating caking, bridging, and channeling which occurs with moisture-absorbing salt.
- HAS FREE-FLOWING GRAVITY FEED.
- EASY TO CLEAN — assuring continuous efficiency.
- SIZES TO FIT EVERY NEED.
- The Myles Double Filtration Brine Percolators — widely used for years with outstanding results and economy.



1 SELF FILTRATION. *Controlled supply of water flows upward through rock salt, dissolving some of it. The solution then flows through the remaining rock salt before it reaches the top.*



2 SECOND FILTRATION. *The insoluable Calcium sulphate rapidly precipitates in the brine. After settling into the settling chamber, the brine passes upward through a gravel filter which removes the last traces of insoluable matter.*

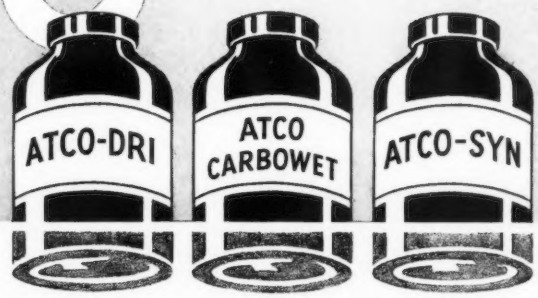
Whatever your problem, Myles' trained technical men will help you before and after installation. There is no charge for this service.

Write today for complete illustrated booklet containing helpful brine charts.

MYLES SALT CO., LTD.

NEW ORLEANS, LA. CHARLOTTE, N. C.

3 ATCO PRODUCTS *that Belong*



in Your LABORATORY!

(FOR COMPARISON PROOF!)

ATCO-CARBOWET EXTRA

(Compare It with Your Present Carbonizing Agent) The Better Wetting Agent For Carbonizing. Test its value in speeding carbonizing! Test it for superior penetration in the dye bath and for the superior aid it gives fulling, scouring and rewetting operations!

ATCO-SYN **(Compare It with Your Present Detergent)** A Synthetic Organic Detergent. A Soap Powder. Test it for scouring or boiling off all types of fabrics. Test it as a dyeing assistant or dispersing agent. Test it for washing off after printing ... for wool processing ... for any textile detergent use.

ATCO-DRI **(Compare It with Your Present Water Repellent)** A Superior Water Repellent. Test it for superiority from lab to fabric.

Ask for *Laboratory Samples* of all three of these *ATCO products* ... further technical data on all three products available on request.

Use ATCO Products

Atlantic Chemical Co., Inc.

MAIN PLANT: CENTREDALE, RHODE ISLAND

BRANCH OFFICE: PATERSON, NEW JERSEY

10 PRODUCTS of *Proven Dependability*

WHICH SHOULD WARRANT ★ YOUR ATTENTION ★

***AQUAROL :** A water repellent for processing woolen, cotton and rayon fabrics, also produces excellent results in splashproofing or finishing all types of hosiery.

***PARAMINE S :** A cation active softener for processing cotton and rayon cloth to obtain a soft, smooth, pleasing finish.

***ALGEPON S :** An assistant in dyeing vat colors to prevent premature oxidation of the reduced bath and eliminate uneven dyeings.

***ALGEPON V A :** Assistant for stripping vat colors—complete reduction of color in stripping bath providing lighter bottom for redyeing.

***PARAPON S A :** A highly efficient leveler and softener for dyeing and finishing all types of yarn, cloth and hosiery to produce a uniform dyeing and a soft full hand.

***ARIPEL F S :** Finish and gas inhibitor for processing dyed acetate rayon—produces a soft full feeling finish and prevents gas fading of the color.

***LANITOL F :** A synthetic detergent possessing exceptional scouring and washing properties for processing wool, cotton, rayon or nylon.

***CULOFIX :** Used as an after treatment in last rinse to prevent bleeding of direct dyed cotton or rayon in water.

***DIAZONOL A C :** For boiling out cotton cloth in pressure or open kiers to produce greater absorbency and cleaner material. Excellent for preboiling knitted cloth in preparation for chlorine bleach. Also used with good results for boiling out cotton or rayon cloth on the jig.

***TETRANOL 1638 :** A rapid wetting and penetrating agent. Active in acid, alkaline and salt solutions and not affected by hard water, may be used in all types of dyeing operations to insure positive penetration of color and a uniform and solid shade.

And a Complete Line of Oils, Chemicals, Softeners and Finishes For Wet Processing All Textile Fibres

*Reg. U.S. Pat. Off.

ARKANSAS CO. Inc.

Newark, New Jersey

ESTABLISHED OVER 40 YEARS

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933, OF AMERICAN DYESTUFF REPORTER published bi-weekly at New York, N. Y., for October 1, 1946.

State of New York, County of New York, ss.:

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Alfred P. Howes, who, having been duly sworn according to law, deposes and says that he is the Publisher of the AMERICAN DYESTUFF REPORTER, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher—Alfred P. Howes, One Madison Ave., New York, N. Y.; Editor—Prof. Louis A. Olney, Lowell, Mass.; Managing Editor—Norman A. Johnson, One Madison Ave., New York, N. Y.; Business Manager—None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

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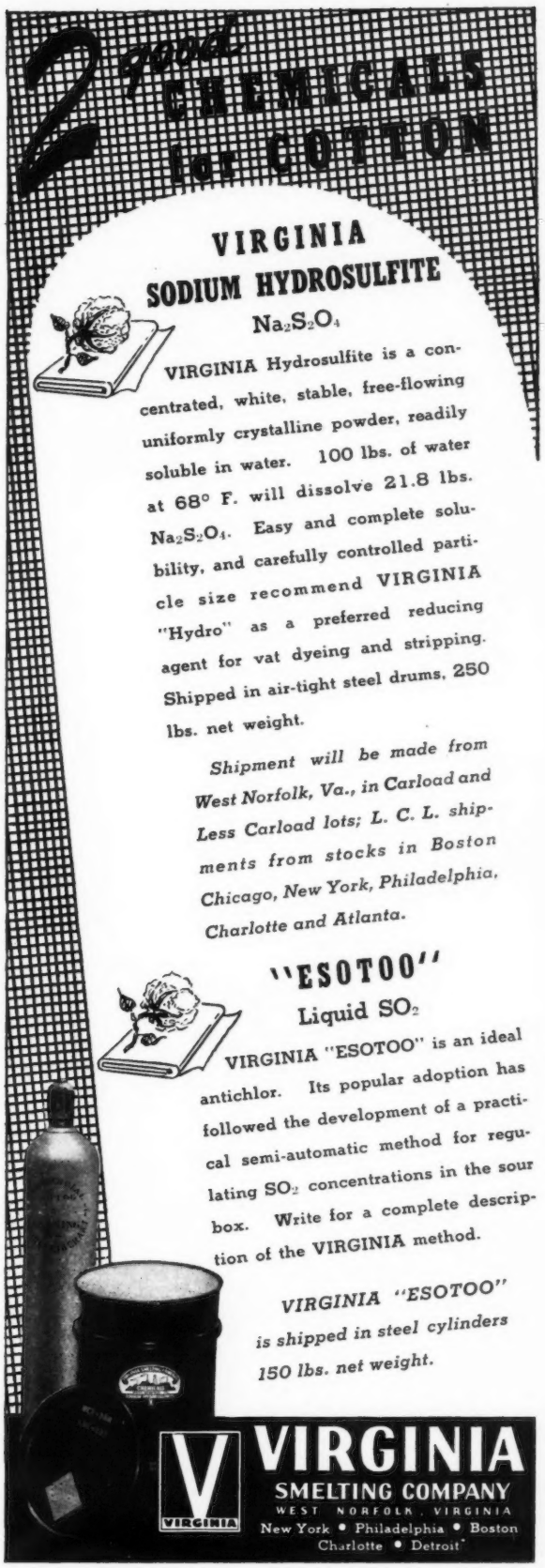
4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

ALFRED P. HOWES, Publisher.

Sworn to and subscribed before me this first day of October, 1946.

(SEAL) CAROLINE ESSENBREIS

Notary Public, Kings County, Clerk's No. 141, Register's No. 51-E-7, N. Y. Co. Clk. No. 85, Reg. No. 50-E-7. (My commission expires March 30th, 1947.)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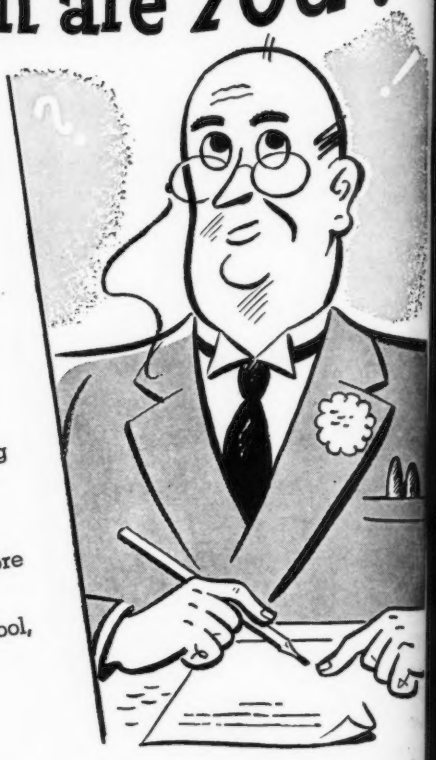

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